Grand·Prix

INTERNATIONAL

GERMANY

AUSTRIA

M 1484 - 54 - 13 F

N° 54 - AUGUST 19TH 1982 - GREAT BRITAIN £ 1,25 - CANADA 3$50 - IRL £ 1.40

THE LONGINES STYLE

Longines named sole Grand Prix timekeeper. To time events to 1/1000th sec.

For the next three years, Longines will be sole official timekeeper of Formula One world championships – from Kyalami in 1982 to Las Vegas in 1984. The appointment was made by FISA and FOCA. Longines is also the choice of the Ferrari and Renault racing stables. On the track, on your wrist, look to Longines for the last word in time.

The Longines-Ferrari Collection. Ultra-slim quartz movement, centre second, calendar. Sapphire glass. Water-resistant. 2-toned model with white, gilt or black dial. Hers: Ref. 4888. His: Ref. 4870.

Longines. Quartz made in Switzerland.

Ferrari

LONGINES
OFFICIAL TIMEKEEPER OF
THE FERRARI RACING TEAM

LONGINES

A Matter of Style

New

Marlboro 100's
Tall red pack
Smooth flavour too.
Extra long
so you can stay
longer in
Marlboro Country.

EXTRA LONG 100's

LOW TO MIDDLE TAR As defined by H.M. Govt. DANGER. H.M. Govt. Health Departments' WARNING: THINK ABOUT THE HEALTH RISKS BEFORE SMOKING

We're often asked what we get out of motor racing.

Below, you see a particularly fine example.

It may not look much to you but it speaks volumes to our scientists down at Sunbury.

Pure gold, in fact, if you know what you're looking for.

Because the fastest way to find out how an oil will perform is by putting it in a racing engine.

Then put it under the microscope (or, to be precise, the plasma torch), and it starts to yield up its secrets.

The first thing our boffins look for is the state of the additive elements.

(In laymen's terms, the ingredients added to the oil to improve its performance).

Are they still there in the right concentrations?

Or have they been used up in the slog round the circuit?

After that, they start looking for what shouldn't be there.

Like trace elements of iron, copper, aluminium and chromium.

All of them tell-tale signs of the wear and tear an engine suffers under stress conditions.

No single sample, of course, is conclusive proof of anything.

So our scientists analyse upwards of 5,000 samples every year.

Not just from racing cars but from every kind of vehicle under the sun.

What we learn from all this goes into improving our lubricants.

Could we get by without motor racing?

To us, it's still one of the best tests of an oil under stress conditions.

Our men in white coats care not who's lost or won.

But only how the oil's performed.

BP

After every race, our drivers are expected to provide a specimen.

EXECUTIVE

NO. 5

FOR THE MAN OF TODAY

95p/25NF

SHHH! AN INVITATION TO A SEX FANTASY WORLD

CAN YOU MAKE MONEY FROM MAIL ORDER?

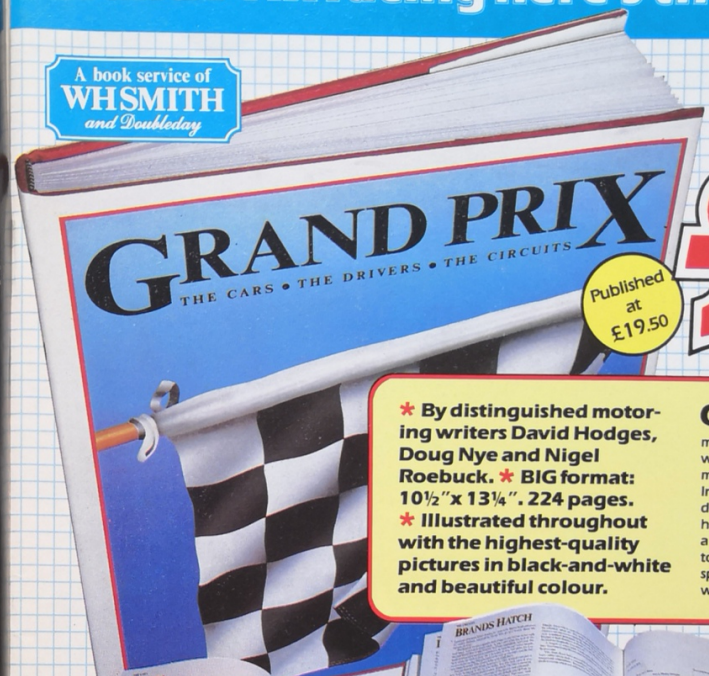
THE NEW JAMES BOND THRILLER: An Exclusive Excerpt

IS THERE ANY TRUTH IN ASTROLOGY?

PLUS: Lifestyle, People, Movies, Books, Music, Girls.

If you want to know more about Grand Prix racing here's the book for you!

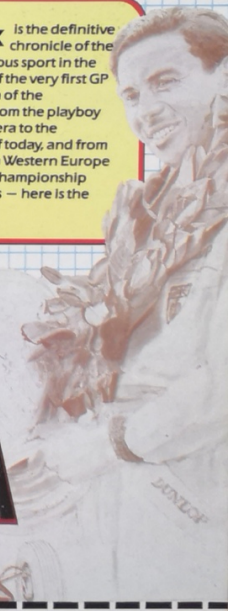
A book service of WHSMITH and Doubleday



YOURS FOR ONLY £1 + P&P*

* By distinguished motoring writers David Hodges, Doug Nye and Nigel Roebuck. * BIG format: 10½"x 13¼". 224 pages. * Illustrated throughout with the highest-quality pictures in black-and-white and beautiful colour.

Grand Prix is the definitive chronicle of the most exciting and glamorous sport in the world. From the 63 mph of the very first GP motor race to the 200 mph of the Indianapolis Speedway, from the playboy drivers of the Edwardian era to the hardened professionals of today, and from a series of isolated races in Western Europe to a multi-million-pound championship spanning three continents — here is the whole fascinating story!



Take this superb book for just £1 (plus p.& p.*) as your introduction to the On the Road book club. Whatever your special interest — whether you're a dedicated one-marque man, budding mechanic or auto-modeller … maybe into racing, rallying or restoration — On the Road book club will give you the kind of reading you most enjoy! This is the book club that caters for ALL road transport enthusiasts. If it has wheels and an engine and travels on the highway or race track, we'll offer you books about it! Buses, trucks, bikes — and, most of all, cars, of every shape, size and type.

Quite simply, On the Road book club brings you the finest of today's motoring books. And that's not all, because as a member you'll save at least 25% — sometimes as much as 50% — on the publishers' prices of the books you buy.

And you'll receive a free magazine at approximately three-monthly intervals to help you decide what books you want from the club's terrific programme — hundreds each year, including many on other subjects to interest all the family. All we ask is that you take at least one book each quarter during your membership. Could there be a better way to buy the books you want?

Start now — fill in the coupon and send it back to us. But send no money until you've examined this remarkable book in your own home for ten days.

On the ROAD BOOK CLUB

Swindon X, SN99 9XX.

WHSMITH AND DOUBLEDAY Quarterly CLUB

Your only commitment is to buy at least one book each quarter during your membership. The minimum length of membership is one year (4 quarters).

…and your assurance of good service. Should you ever have any cause for complaint about the club's goods or services, you are invited to write to Book Club Associates, Swindon X, SN99 9XX.

To: On the Road, Swindon X, SN99 9XX. 1460

Please accept my application and enrol me as a member of On the Road and send me the book featured here for only £1, plus 95p towards post and packing*. If I am not completely satisfied, I may return the book within 10 days, my membership will be cancelled and I will owe nothing. As a member I agree to buy at least one book each quarter. I understand that the minimum length of membership is one year (4 quarters). If after this time I wish to cancel, I may do so by giving one month's notice in writing. All books are described in the free club magazine, 'On the Road', and are offered for at least 25% less than the published prices (plus postage and packing). I am over 18 years of age.

Mr/Mrs/Miss _____

BLOCK LETTERS

Address _____

_____

_____ Postcode _____

Membership limited to one per household. Overseas send for details. 'GP200

SEND NO MONEY NOW

Black Power

John Player Special King Size

IN THIS ISSUE:

PAGE 10
PADDOCK NOTES FROM HOCKENHEIM AND ZELTWEG

PAGE 12
TAMBAY/DE ANGELIS: THE PROOF

One was called a playboy with a Pepsodent smile, the other, too rich to be motivated. But Patrick Tambay at Hockenheim and Elio de Angelis at Zeltweg scored their first GP wins to prove their talent. Keith Botsford talked to them and analyses their feelings now they are — winners.

PAGE 18
GERMAN G.P.: PRACTICE

The grid was established Friday with Didier Pironi on pole — a position that was to remain empty.

PAGE 20
GERMAN G.P.: THE RACE

A turbo battle exclusively, Tambay coming out the winner ahead of Arnoux after the Brabham-BMWs dropped out.

N°55 (SWITZERLAND) WILL BE ON SALE ON SEPTEMBER 2, 1982

Grand·Prix international

PAGE 22
GERMAN G.P.: STATISTICS AND LAP CHART

PAGE 24
EXTRA, EXTRA

Didier Pironi's accident, though a driver error, brings up once again the problem of the strength of F1 cars in a frontal impact and visibility in rain.

PAGE 26
POSTCARD FROM HOCKENHEIM

PAGE 36
BMW: THE POWER FOR PEACE

On the eve of the German GP, Mike Doodson went to Munich where BMW opened many doors for GPI, notably that of an engine test bay — in operation. He learned of 580 hp, and microprocessors, and Dieter Stappert spoke of peace in Formula One.

PAGE 42
POSTCARD FROM ZELTWEG

PAGE 44
AUSTRIAN G.P. IN PICTURES

PAGE 52
AUSTRIAN G.P.: PRACTICE

The Brabham-BMWs of Piquet and Patrese dominated outrageously, Piquet averaging more than 150 mph on one lap.

PAGE 54
AUSTRIAN G.P.: THE RACE

The Brabhams and Renaults were out, Tambay a lap down after a puncture and the Alfas eliminated at the start, so the way was open for the Cosworths. De Angelis finally scored the DFV's 150th win, but only a wheel in front of Rosberg.

PAGE 56
AUSTRIAN G.P. STATISTICS AND LAP CHART

PAGE 58
EXTRA, EXTRA

Though he didn't finish, it was a big day for Tommy Byrne, qualifying for his first G.P. Alain Prost was on his way to nine vital points when for him, the day turned sour.

PAGE 60
NELSON'S COLUMN

PAGE 62
COCKPITS

Giorgio Piola and Didier Braillon examined the cars in the pits at Hockenheim and Zeltweg to discover what was new.

GRAND PRIX PUBLICATIONS Ltd 6. York Street, London W1H 1FA. Tel: 01.486.1277. Telex: 267509 LOGMAN G. PUBLISHER AND PUBLISHING DIRECTOR: Michel A. Konig. ASSOCIATE PUBLISHERS :Michel Hommel, Graham Rogers. INTERNATIONAL COORDINATION : Doreen Rogers. FINANCIAL CONTROLLER : Ivor Olley. ADVERTISING MANAGER : Robin Goodman. SUBSCRIPTIONS MANAGER : Sarah Redmond. CHIEF EDITOR : Keith Botsford. DEPUTY CHIEF EDITOR : Didier Braillon. EDITORIAL : Mike Doodson, Bob Constanduros, Giorgio Piola, Mario Luini, Michelle Dubosc, Xavier Chimits, Maurice Hamilton, Heinz Pruller, Jeff Hutchinson. COLUMNIST : Nelson Piquet. ARTISTIC DIRECTOR : Marc Tournaire. EDITORIAL SECRETARY : Regis Lacroix, Martine Fréour, Annie Nédelec. LAYOUT : Pascal Tournaire, Alain Convard, Jacques Gaiotti, Jean Bernard Blanchet. ILLUSTRATIONS : Serge Thomassian, Nicolas Géron, Didier Bussat, Jacques Poirier. PHOTOGRAPHERS : Bernard Asset, A + P, SAM, DPPI, First Line, Vandystadt, Cochin Jacques, Lionel Froissard, John Blakemore. Grand Prix International is published in five languages : English, French, Spanish, Italian, Dutch. PARIS HEADQUARTERS AND EDITORIAL : 7, rue de Lille, 75007 Paris, France. U.S.A. : Long Beach GRAND PRIX ASSOCIATION 110 W. 110 W Ocean Blvd, Long Beach CA 90802. ITALY : Editoriale Arbe s.r.l. via Arbe 10/20125 Milano, tél. : 02/60.08.26. SPAIN : Po Castellana 169, Madrid 16. HOLLAND : Zuidgroep, Postbus 245,2501 CE The Hague. DISTRIBUTED BY : COMAG, Tavistock Road, West Drayton, Middlesex UB 77QE. Tel. : West Drayton 44055. Telex 8813787. Printed in Belgium by Hoorens Printing.
GPI published after each Formula One event (with 2 combined issues). Send change of address to : GRAND PRIX INTERNATIONAL, 110 W. Ocean Blvd, Suite A. LONG BEACH CA 90802. U.S.P.S. 597.330. First Class $72.00 Second Class $52.00.

1. British photographer Nigel Snowdon was on the spot when Derek Daly lost his left front wheel during practice for the German GP, because of "finger trouble" by the Williams mechanics, he admitted.

JOCKEYING FOR POSITIONS

Besides the mad scramble for turbo engines which seemed to be taking place in every corner of the paddock at Zeltweg after the accouncement that Renault was going to cede its turbo engines to Lotus — on terms and in quantities that remained to be discussed — another parallel market was taking place with drivers up on the auction block.

The obvious center of attention after the accident to Didier Pironi and the altercations at Renault between the two stable-mates, was René Arnoux. As, in this game, it is never wise to take at 100% what anyone tells you, when one is told from the horse's mouth (or as near as) that Arnoux had signed for Ferrari, one asks: who says? And why? Who is being wound up by whom?

If you turn to one of René's close friends, he will say, and did, *"Arni has signed with Renoux."* It is no secret that team-mate Prost is the subject of discussion at Williams, but the fact remains that Ferrari has certain predlicitions in the matter of drivers: that they be experienced, that they try hard and that they fit in the Maranello scheme of things.

That does not, at present, give them many options. Of the top lot, Keke Rosberg has already signed for Williams, de Angelis and Mansell are fixed at Lotus and Patrese's contract has another year to run at Brabham. Nelson Piquet? Either Ferrari or Renault could well be interested, but Piquet has spent all this year in developing the BMW engine. Only if Brabham were not continuing with the BMW would a move by Piquet be logical.

Of the young drivers, Alboreto is definitely committed to Ken Tyrrell. Derek Warwick, whom the Italian press had all-but-definetely assigned to Ferrari, is an unlikely bet. The old ace in the hole among the remaining veterans has always been Niki Lauda, and there are some who believe that Niki might like a drive in a potentially championship winning car like the reliable Ferrari, rather than trying his luck with a new Porsche turbo at McLaren. As for John Watson, he continues to deny reports of his retirement. All of which makes jockeying for positions a continuing likelihood.

DEPT. OF GADGETRY

Fritz Birnbaum of the University of Graz was at the Osterreichring trying to interest teams in two micro electronic devices he has built in the Department of Human Technology at the University. The first is a little buzzer system fitted inside a driver's helmet to tell him when the revs are high enough to change gear or too low for optimum power. A high tone would be used when the engine had reached, say, 11,000 revs, and a lower tone when it was down to 4,000 revs. Birnbaum sees his device as particularly interesting for drivers at the start, when they have to watch both the lights and their rev counters.

The second device is an on-board check system to inform the driver when water and oil temperatures is too high or oil pressure falling. This would make current instruments obselete. Birnbaum's instruments are currently in use in Franz Wurz's rallycross championship-winning Audi Quattro. Jackie Stewart showed particular interest in Birnbaum's devices, while Jean Sage of Renault suggested that they might test them in a racing Renault R5 turbo. Paul Rosche of BMW and Adrian Reynard of March also expressed interest.

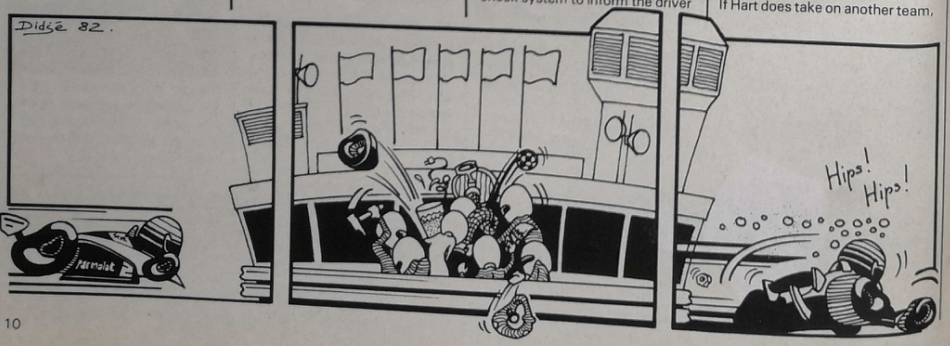
THIEVES BEWARE!

Keke Rosberg got back home from Hockenheim to find his home had been broken into: the front door was smashed and the lights were all on. The chief casualties were Keke's electronic gadgetry and his fiancée Yvonne's jewellery. On the front lawn as he arrived was his collection of trophies, but luckily none were missing. Keke has taken drastic steps to protect his home in the future, and he isn't willing to tell anyone what they are.

HART TO HART?

The likely proliferation of turbo engines in 1983 means that everybody is looking for one. Brian Hart has engines and we understand Toleman does not have an exclusive contract for their use. They can have one, but it will cost them £500,000 more than they are currently paying, and the deadline for decision is October. Hart's 23-man staff can currently supply one more two-car team. The problem is assembly, but once the engines are built, they can be serviced and rebuilt by Hesketh's engine department which currently works on Hart engines. Hart has spent some £750,000 on development to date but he wants more development money to investigate water injection and electronic metering devices among other matters, which is why he might be tempted to take an another team and make up the £1 million he needs. Toleman would like to help but may not want to spend that much.

If Hart does take on another team, Toleman apparently has a right of veto as to which team it is. It would be interesting to know who would be vetoed and who accepted. And who among the non-turbo teams has the necessary scratch.



ARNOUX ON THE HILLS

The weekend before the German GP, Prost, Arnoux, Pironi and Lammers were invited to take part in a hillclimb at Ayent-Anzere in Switzerland in Renault 5 turbos. Prost declined the invitation for personal reasons, possibly connected with Arnoux' presence, and Didier, because of his Ferrari contract, could only give a demonstration run in a splendid Ferrari California. But Arnoux and Lammers went at the hill with a will. Fresh from his French GP win, Rene found his first Renault had mechanical problems and he had to make several runs in different R5 turbos, much to the delight of the 9,000 spectators. For the record, Rene finished sixth in class, ftd being set by French hill climb specialist Marc Sourd in a Martini-ROC F2 car.

TYRE SALAD

An imprecision in Mike Doodson's Extra, Extra on tyres in the French GP number might have led readers to believe that Niki Lauda started the race on tyres that were an unknown quantity.

In fact, as Michelin's Pierre Dupasquier has pointed out to us, the opposite happened. Michelin did advise McLaren, because of the changed condition of the track on Sunday, to use a tyre which had not been tested during practice. But MacLaren preferred to use tyres which it knew, and Lauda raced on type 1005s.

When they turned out to be unsuited to the track, Lauda stopped for a tyre change and 099s were put on, the tyres Michelin had recommended and which the Renaults were using. With the 009s, Lauda finished the race at the same pace as Alain Prost.

ANDREA ON TWO WHEELS

2. Watched by his teammate Bruno Giacomelli, Andrea de Cesaris recently tried out an 1 100 Suzuki. A very special bike, the innovative bodywork was designed by our contributor Giorgio Piola. If you are interested, Giorgio kindly left us his phone number in Italy : (39) 10-585-808.

HEAVY IRONY

When Elio de Angelis' Lotus took the flag at the Austrian Grand Prix after Alain Prost's Renault engine expired in flames, it was hard not to smile at the irony of the situation. Colin Chapman and the Régie Renault had just announced their engine deal for 1983 and 1984, and here was Lotus winning the historic and much-awaited 150th official World Championship victory of the Ford-Cosworth.

This spectacular and ironic event should not, however, overshadow the reality: the gap separating the turbo engine from the atmospherics has widened considerably in recent weeks on the faster circuits, to reach more than 4.5 seconds a lap at Hockenheim. There are now two distinct classes, one rather unreliable but shooting for victory, the other well proven but only hoping to pick up the crumbs from the turbo table.

It is not the nature of most of the Formula One team owners to stand around and wait, and the paddock at Zeltweg was the scene of a host of tight little conversations, often looking conspiratorial. The object: what engine to get for next year, not only to win but just to survive.

Given that Renault Sport will only supply Lotus and Porsche is tied to McLaren, the choice is down to four engines: BMW, Hart, Honda and Matra. As far as the French engine is concerned, there is the greatest doubt that Ligier, probably separated from Talbot, could acquire the engine and development technology at the asking price of 40 million francs (about £3.3 million). Honda, said to have an atmospheric and two turbo engines, could tempt Williams and Tyrrell as well as Ligier.

But the principal problem is that the two British teams are also looking to BMW, whose exclusive contract with Brabham ends this year, and it is possible that via Schnitzer, the BMW unit could also go to ATS.

That leaves Brian Hart, who needs £1 million to continue developing his British engine, and who will stay exclusive with Toleman if the team can raise that sort of money. If it takes two teams to find that sum, Tyrrell might be the other user of the 4-cylinder Hart.

Lots of question marks, and no solutions for those teams which because of lack of money are condemned to continue running the Cosworth for the time being. Teams like Ensign, but then Mo Nunn seems to be hesitating between going over to Indianapolis-style racing or hiring his personnel out to another constructor.

The expotential growth of budgets may mean the end of several teams, unfortunately, but the jigsaw is missing a piece, a key piece which could hold the whole thing together.

Keith Duckworth is holding that piece. Turbocharging is no mystery for him.

GPI

TAMBAY, DE ANGELIS: TWO INSIDERS MAKE IT INSIDE

Clean cut and well-groomed, Patrick Tambay made it to the podium at Hockenheim. At Zeltweg, that poor little rich boy, Elio de Angelis, made it two outsiders in a row to the top: for each it was a first victory and doubly sweet.

by Keith Botsford

The young man has always been neat. You know the sort of thing: well-groomed, properly after-shaved, handsome in a regular sort of way, rugged and sensitive, physical and spiritual, the kind of boy mums want for a son-in-law. With that goes a kind of innocence, and a thumbnail sketch would conclude he'd never be a world-beater. Ligier, McLaren, Theodore, Ensign: no puffs of blue smoke. Hockenheim altered much of his image.

On the edge of the pit-wall, in a blue-striped T-shirt, one of the fifty or so cogs of the Scuderia's inner family. He leans on the concrete, his eyes closed, his hands joined in silent prayer. He doesn't even dare look up as Tambay's Ferrari glides across the finish line and Patrick, in his cockpit and long before the actual finish line, raises both hands in air.

In the Ferrari pits, where the excitement is peculiarly muted, Forghieri is quickly surrounded by the avid Italian press. *"No problems,"* says the Ingegnere, *"it was a good race, it is a good result for us"*. And how did he rate Patrick's performance in the car ? *"I don't think he made even a tenth of a mistake at any time during the race. A race of great regularity."* Then came the obvious question: considering the tragedy that had befallen Didier Pironi (and the outlook that Sunday afternoon was much darker than it is today), did the Ferrari win have a special meaning for him and for the team ? Forghieri's dark eyes lowered briefly. *"Of course,"* he said instantly. *"You will understand that."*

As Patrick was to say a half-hour later: *"Sure I was nervous before the race. Everyone was nervous. More nervous than usual. I did the first 25 laps thinking about my two chums, about Gilles and Didier. I mean, I was thinking about them non-stop."*

How not ? one might ask. If life can be called nasty, brutal and short, so can the description of Tambay's recent career: in, when his friend of four-wheeling up mountain-slopes, Gilles Villeneuve, is killed at Zolder; he wins his first ever race, after 53 attempts, when his team-mate Didier Pironi is undergoing a critical operation in a Heidelberg hospital.

The last two months must have looked to Patrick as though a bolt from the blue had been indefinitely extended; lightning hadn't just struck, it was continuing to run through his life, as though liquid. After all, in a way this is Tambay's third career. One, with McLaren, ended with unsuccess, with hard words, hard times. The man doesn't like enclosed spaces, human chessgames.

He gave up tennis, which he played obligingly and cavalierly, with much style and little result, in favour of golf, sailing, climbing, the wide open spaces: *"I don't like to feel confined by the court,"* he once explained. So it was with the McLaren-Marlboro motor home, with Edward Everett Mayer on his back.

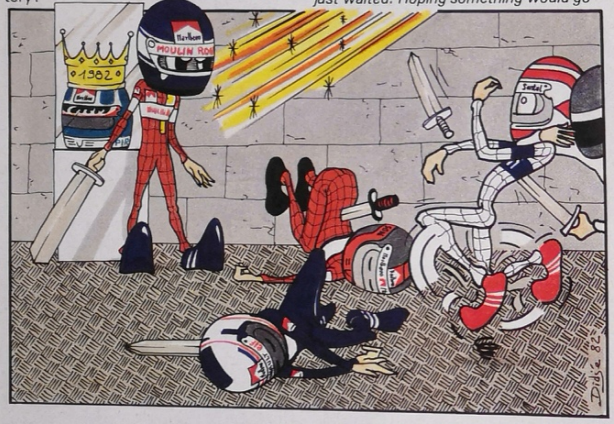
Which is why the move to Ferrari was so pleasurable for him. The night of his satisfying third behind Lauda and Pironi at Brands, he gave yet another version of why the old man's magic still works at Maranello. The commendatore's talents, said Patrick, might be sheer common sense; it had also to be admitted that he was shrewd in business and politics; it was undeniable that he was consumed by a passion for racing which rubbed off on everyone around him (or as his team-mate Pironi put it to me a fortnight ago, *"Ferrari taught me that a single-minded passion is not just selfish,*

→

but can also be noble.''); but above all, Tambay said, *''it is sheer humanity, it is the personal nature of one's relations with the man, it is the way he looks at you and talks to you.''*

The move to Ferrari had come after Patrick called a halt to his Formula One racing a second time, when it had barely re-started: at Kyalami, when I can remember him well sitting on the dingy steps of the control tower while we worked out how he would announce that his disgust with the politics of the sport were driving him definitively out of the sport. Disgust with what ? *''With the fact that drivers aren't taken as people and their needs are not understood,''* he had said.

Well, up on the podium, he looked strangely ill-at-ease. It either wasn't his bag or he just didn't have enough practice: or it didn't mean that much to him or his mind was elsewhere. But of course the man had been altered by his first victory:



''After four races, I think I'm much more highly motivated, I have a lot more determination, and I've applied myself carefully. After all, sucess comes from confidence.'' Quite true. And what is the sweet smell of success ? *''You ask me if I feel good about winning the race ? I can tell you it is a very visceral feeling, success.''*

Was it really a piece of cake ? Patrick was calm and logical. First, he indulged in the usual driver tribute to the team effort which makes a win possible. *''It's not an individual who wins,''* he said, *''it's a team. It's what you can do for them and what they can do for you.''* It all sounded a bit as though a down-hill skier were saying that the man who made his skis was the real winner of the race; of Miss America saying it was the plastic surgeon who gave her her beauty. Then he went on to explain:

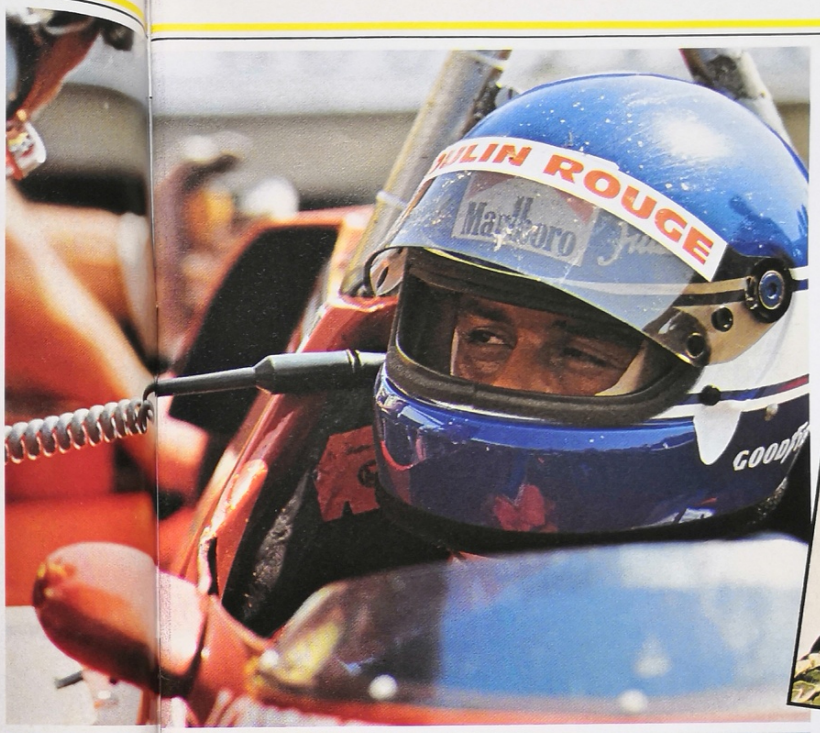
''I think today is a reward for my friends, as much as for me. Don't ask me why. I just felt it that way. I don't think of it as, hey, I won a grand prix. I think of it in terms of the people who are close to me: my father, my wife, my friends.

''I've waited 52 races to get here. But in the past, I think I was without technological and psychological backup. Maybe because of pressures inside me, I didn't get the results I thought I deserved: as at Monza or at the British GP last year (he wound up the season with a single point). *I made mistakes while I was leading Laffite: I say, because I wasn't backed up psychologically.''*

And the race itself ? *''I had no problems, technically. We picked the right compound* (it was a B) *and the car was beautifully balanced. It was very good under braking and the engine was faithful. At the beginning, I tried not to do too much and save my tyres, but I soon discovered that I was much better under braking than Arnoux; I also had better pick-up coming out of the corners. I passed both Renaults and I knew there was no way I was going to catch Piquet. So I just waited. Hoping something would go wrong or they'd cock up the pit-stop. So I just set a pace. Then Piquet had his trouble with whoever-it-was* (Salazar) *and I thought to myself, Patrick, be super-careful with the back-markers. I had plenty of time to think, and at the end, I could run down my revs from 11,5 to 10,5 or less.''*

Any problems ? *''Yes, they kept putting up this pit-board that said 'okay, okay'. And I thought, I know I'm okay, okay. But knowing you're okay, okay.. well, it's not the usual thing. But still, I had a feeling it was my day. All the little things meshed together. The driver is just the man who puts it together.''*

His intention ? *''To keep Didier's capital, his points, intact to the end of the season. At this moment, next year is no worry.''* And small wonder, since he has already signed. A comeback from a young man who seems all surface but who stands on his own deeper ground. His world may have changed, but Patrick has not. The alterations are within. □



It took 52 tries before Patrick Tambay won his first race at the German G.P. and 54 before Elio De Angelis won in Austria. Lightning struck, the miracle happened and both men, as had not always been the case, were finally seen at their true value.

Money is what gives a driver value," said the wealthy Elio de Angelis not long ago; *"the amount he earns is the measure of his value in the eyes of the constructors."*

At eleven the morning of the race at Zeltweg, Elio signed for next year with Colin Chapman. Was it just a coincidence that five-and-a-half hours later, Elio crossed the finish line at Zolder a wheel's-length ahead of Keke Rosberg in one of the most sensational finishes to a race in years ? Asked whether he now felt he had the respect of all — not just as a driver who had at first bought his way into Formula One, but as one who now made it to the top on his own merits, Elio said, *"I think I always had the respect of the other drivers, but I don't doubt that this victory will consolidate that respect."*

The final laps were, as no one will forget, moments of great tension. Half the Lotus team was up on the armco at the top of the pit-lane, lined up behind the bare-headed Colin Chapman. As the final lap comes up and Keke Rosberg is still a car-length or two behind, Colin put on his famous cap. But why had he ever been bare-headed ? *"The last time my hat flew in the air,"* he said, *"was at Zandvoort in 1978, when Mario Andretti and Ronnie Peterson finished in a tight one-two. We won again at Monza after that, but Mario had been penalized for jumping the start, so the win didn't stand. After that, I almost gave up carrying the bloody thing around. Luckily, Hazel gave it to me just before the finish, and I'm hoping to throw it up a few more times next year."*

So up the cap went when Elio crossed the line. Only for Chapman to be knocked over when Elio blipped the throttle and caught the great man between his front wheels. Chapman leaped out of the way and hit the ground, slightly hurting a wrist. When de Angelis, literally mobbed by the Italians and a tight bodyguard of black-and-gold John Player men, obviously overwhelmed by a victory that was not transparently obvious beforehand — not on an ultrafast, high circuit where the turbos were 'guaranteed' to win, not from seventh on the grid and not in a car that had hardly been a world-beater — reached the podium, his girl-friend stood there biting her lip. It took her a while to recognize some friends below and then start clapping with them.

It is called the moment of arrival. To have arrived. To be there at last. And it must be said that great as Elio's triumph is, it is also a victory that denied another remarkable driver, Keke Rosberg, of his long-awaited first victory: and that by the smallest of margins.

The mood in the Lotus motor-home afterwards is a little bit more relaxed: Elio has come to terms with his victory. The champagne is out and JPS-man Peter Dyke, tall and thin-goatee'd, is emitting all the right, laid-back noises: *"Bit worried about getting out in the traffic jams were we ? Suppose that doesn't matter now, eh ?"* Buried in the remote back of the caravan, Peter Warr is trying to reach Elio's father in Sardinia. Nothing doing. The lines are all busy. Probably all of Sardinia is busy. Someone asks Elio if his dad's going to set off the fireworks ? The 24-year-old Elio says, *"I guess all of Sardinia will."*

As this is business and PR as well as sport, Mike Murphy comes in with three Lotus stickers to be signed for 'very special people', and outside a young friend of Elio's is signing autographs and the Italians shoving their ball-point pens at him are too exhilerated to notice that he's not Elio.

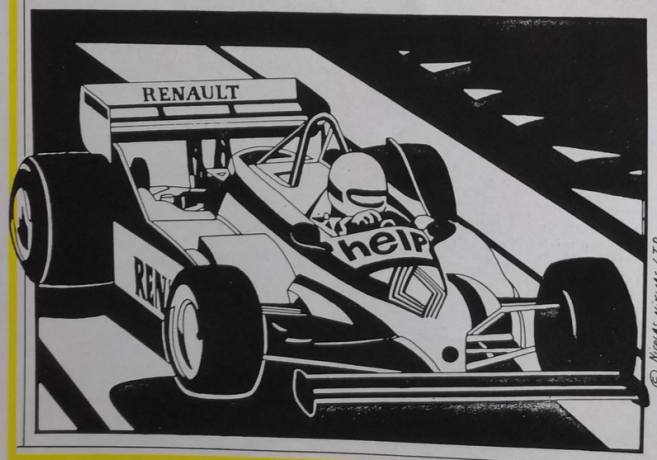
And Elio, inside, is beginning to feel expansive. He's now in a dark chequered shirt, blue jeans and sneakers and running through the repertory of the grand prix driver's languages as he is bombarded with questions. The answers increase in precision as the questions are endlessly repeated: all too often the same, obvious one — how does it feel to win your first race ? What can the poor man say ? *"The first win is always the best."* And yes, that *"I suppose it is a surprise."*

If so, who was surprised ? Not Elio. Not after Prost's engine caught fire. *"With the gap I had, I thought I was going to make it easy. The car was fine, the engine was just right, I had no trouble with tyres. I knew as I was going to get lighter, I was going to lose a little to Keke, but he was a long way back, wasn't he ? Then I saw Prost stopped and the next time I'm by the pits, I see I have ten and a half seconds in hand. I say to myself, if I lose half a second a lap, I'm still going to make it."*

Keke, in fact, was the only driver Elio actually passed in the race. (Said a laconic Keke afterwards: *"the car was bad for the whole first half of the race — we're experimenting with something I can't tell you about — and that's how Elio pulled out his lead on me."*) And when it came down to the wire, how did it all feel ? *"The pit signals were telling me five seconds, four seconds, three, two and then the board started shaking like crazy..."* Elio showed how with Italianate hands *"... and then in the last two k's, I started having misfiring problems and where I'd seen Keke in my mirrors (''He had both eyes in his mirrors all the time at the end,'» said Keke.) and he was some way behind, now he was right up my tail. (''I feinted him on the Boschkurve,'' said Keke, ''on both sides, but he read me perfectly and just shut me down.'') He made a great effort on the last little chicane but I knew I could hold him off. (''On the last corner I really tried, I was absolutely flat out,'' explained Keke, ''I just missed him.'')*

When finally Elio was to appear at a proper press conference, he was completely composed: at the end of four difficult years in Formula One, a number of contract hassles, a reputation as a spoiled kid and finally a vote of confidence from Colin Chapman and Lotus, he had had to face a combative and difficult driver, Nigel Mansell, as his team-mate, and not all had been attar of roses. But, as he admitted, *"For the last few races at least, I must admit that relations within the team have greatly improved. Feeling in the team was a lot better today than it's ever been and to have two settled drivers is always a help. Colin's confidence obviously feeds mine, and the contract I have is a very good one, and we'll let everyone guess how much money 'very good' means."*

Now, for Elio, it was on to next year, when his team will have Renault engines and when he'll be among those who have arrived, rather than being the rich kid who's been looking in. Perhaps the last word on Elio's victory belongs to the Williams team: *"Fantastic race,"* they agreed, *"We don't mind getting beaten like that."* Of course they do. And as Keke, who was so close, looks to the championship this year, so Elio looks to next season. His coming of age represents Lotus' return to the heights. □



© MARK HALLAM LTD.

PRACTICE

A new, narrow and slow chicane, introduced at the Ostkurve after the fatal accident to Patrick Depailler in 1980, made it impossible to repeat the lap-speeds obtained last year, when **Alain Prost** took pole with a 1'47''5. During recent private testing, however, **Prost** still set the fastest time, a substantially slower 1'51''9.

A huge storm hit Hockenheim and the neighbouring cities of Mannheim, Ludwigshafen and Heidelberg on Thursday night: not a few motorists were caught (ask the Alfa Romeo drivers!) in deep waters. But as a result, when Friday morning practice began, in muggy heat, the track was washed absolutely clean.

Young **Tommy Byrne,** freshly promoted from the British F3 championship and having done a test at Oulton Park the week before, took **Jan Lammers'** place at Theodore; **Mansell,** with his left wrist still in its plastic brace, made his second return to the track; **Serra's** task was to concentrate on the development of the F9; and **Mass,** still suffering from his accident in the French GP was not sure he would be able to drive. With two ribs slightly fractured and two discs gone in his vertebra, **Mass** could only put in three slow laps before giving up. His drive was eagerly taken over by that old chum of John MacDonald's and the Rothman-March team, **Rupert Keegan,** who said, *"I haven't driven in F1 in two years and I'm slow, but I'm not finding it that difficult."* **Pironi** set the best time, a 1'51''133, ahead of a brilliant **Lauda, Patrese, Piquet** and **Prost** who did only three laps with carbon fibre brakes before reverting to conventional brakes; the change gave him no chance of further practice before the afternoon. **Arnoux** had constant problems with his injection system and went out in his spare. Unlike the other two

cars, it lacked the hydraulic ride height control system.

The unlucky **Fabi** got in only six laps before his Hart gave up and the Toleman mechanics faced another marathon engine change; because the engine is mounted inside the chassis, a change is more complex and **Fabi** had to sit out the afternoon session. **Piquet** also blew an engine, but he changed cars without batting an eyelid. **Byrne** went off the track some 35 minutes into practice which caused a half-hour hold-up while his car, with its left front gaping, was carted back to the pits and the track was cleared.

The sky was lowering when the first timed practice started in the afternoon and the temperature fell several degrees.

It took a quarter of an hour for the first sets of qualifiers to start bringing the times down. **Tambay** was briefly on pole with a 1'50''531; then it was **Arnoux's** turn with 1'50''468.

With his last fast lap, **Patrick** got the pole back again and got under 1'50 with 1'49''256, but **René** fought back to get ahead. The Renault did three qualifying laps, the Ferrari four, and both men were ahead of **Pironi,** who had done five laps, broken by a pit stop. Then came the rest of the top turbos, meaning **Piquet,** after three laps, and **Prost** who had only done two. **Lauda** had the seventh time and was the fastest of the atmospheric engines, again in only two laps. But on his third, he went off in a big way in the right-hander after the pits. The cause of the accident was apparently a loss of adherence caused by picking up dust on his tyres when he went far out to the left in the pit straight to pass **Keegan's** March. **Niki** came in to use the T-car at the time when most of the drivers were starting with their second set of quallies. **Prost,** unhappy with his race car, also decided to change to the spare car for a second and last try to improve his time.

The first to improve on the times recorded on the first set of tyres was **Patrese,** who put the Brabham in second position. Then came **Alboreto,** seventh and fastest of the atmospheric engines, and **Tambay,** on the second row. **Piquet** stopped for a while after scrubbing in his tyres, and went out to record what was then the third best time, while **Arnoux,** still on pole, and **Prost,** sat waiting. **Pironi** incited them to come out again: 20 minutes before the end of the session, the Ferrari, its turbo engine resounding through the vast stadium like gunfire, did an incredible 1'47''947 at an average of 140.76 mph, leaving his rivals breathless and making a nonsense of the hopes of reducing the average speeds by building the third chicane. **Didier** completed his exploit in his third lap when, with his tyres already nearly destroyed, he did 1'48''3, which was also considerably faster then the rest of the field until then. Renault did not panic, but went ahead

with meticulous preparations; **Arnoux** put on his balaclava, helmet and gloves, and **Prost** was already back in the fray. **Alain** did 1'48''810, better, good enough for the inside of the front row, but **René** was slightly baulked on his best lap, failed to improve and had to settle for third fastest. The Ferrari was simply uncatchable.

Naturally, the six top turbos were on the front three rows of the grid, as at Ricard two weeks before; the valiant **Alboreto** had beaten **Lauda,** handicapped by

having to use the T-car on which he could not use his second set of tyres to best advantage. But **Alboreto** was nearly three seconds slower than the "slowest" turbo. It was the best proof that there are now two distinct categories in F1, which cannot be satisfactory from the strictly sporting viewpoint.

Laffite, whose engine went on his second lap, prefered to wait until the end of the session to put his tyres on **Cheever's** car, once **Eddie** had used his sets, rather than try the spare car, not set up. The result: 13th time for **Eddie,** 16th for **Jacques. Salazar** also broke an engine and when he tried the T-car, found it had almost no brakes. The final incident of a session that was fascinating, but more than discouraging for 22 drivers condemned to the joys of atmospheric engines, was when **Guerrero** broke the right rear half-shaft in the final minutes.

Saturday morning, Hockenheim was cloaked in winter fog and drenched in pouring rain from early on. It was not to

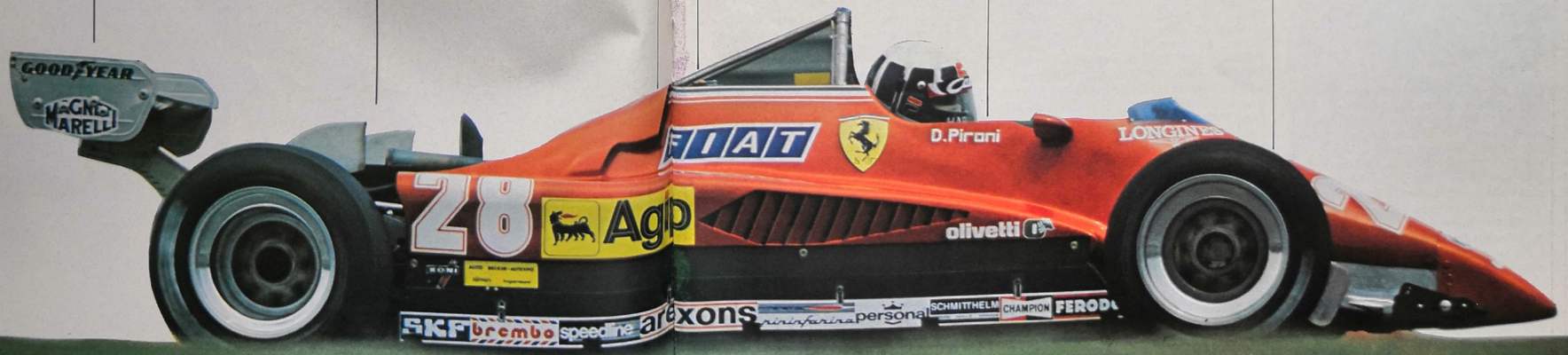
stop before mid afternoon and in the pits, every team knew there was no chance of improving on Friday's times. The worst hit was **Fabi** who found himself a non-qualifier without even having a chance to try.

The next bad news was that **Lauda** had suffered severe pain in his right wrist when he took out the McLaren T-car on Friday. Backlash in his accident had, like Mansell in Montreal, torn ligaments. After an X-ray at Heidelberg he decided not to go out Saturday afternoon and to leave the decision on whether he should race to his trainer, Willy Dungl, who flew up from Austria.

The untimed session was held in driving rain and after 15 minutes, when only

Tambay, Winkelhock, Daly, Rosberg, Cheever and **Prost** were also out, with **Piquet** starting his first lap, **Pironi** was the victim of a massive accident which we describe in Extra, Extra. It took more than an hour to free him, bring back the wreckage of the Ferrari and get the track in racing condition. Few other drivers went out and none of the 14 cars managed to to beat the time of 2'10''941 that Didier had achieved, in vain, before his accident. The final qualifying hour was run in somber conditions of mind and weather, though slightly less wet than the morning. **Lauda, Patrese, Alboreto, Cheever, Warwick, Serra, Keegan** and **Fabi** did not take part. **Piquet** with 2'03''434 set the best time ahead of **Tambay** who faced up bravely to the new responsibilities and difficult psychological conditions imposed on him.

Didier Braillon



1. Pironi's pole position remained empty and the two Renaults shot out in the lead, while Cheever on the left and Guerrero, back right and off on the dirt, tried to snatch places. A few yards further on, Arnoux will be in the lead. (Photos: B. Asset).

2. Arnoux, Piquet, Prost, Tambay: the ordre at the start of lap 2. The Brabham-BMW is on half tanks and will take the lead a lap later, while Tambay will get the Ferrari past Prost's Renault. (Photo: B. Asset).

3. At 1 to 1.5 seconds per lap, Piquet pulled ahead and it is likely he could have won, even with the pit stop, but Salazar and the new chicane decided otherwise. (Photo: B. Asset).

4. Warwick's Toleman-Hart was ahead of Giacomelli, De Angelis, Daly and Laffite on the second lap. It soon had to pit because of a puncture, while De Angelis retired because of unusually heavy skirt wear. Giacomelli went on to finish fifth while Laffite livened proceedings with a good hard charge. (Photo: B. Asset).

5. After passing De Angelis, Giacomelli, Daly and Alboreto, Laffite took the much-improved Talbot-Ligier past Rosberg to lie 4th. But an error overtaking Mansell at the end of the pit straight put him on the dirt, breaking both skirts. (Photo: B. Asset).

6. Having been ninth in qualifying, Rosberg ran a strong race, though he was passed by Watson and Laffite. He took third after Watson went off eight laps from the finish, to win 4 points. (Photo: B. Asset).

7. Tambay, fourth on the first lap, took Prost and then passed Arnoux on lap 10, to be second behind the uncatchable Piquet. He inherited the lead and was never challenged for the last 26 laps. (Photo: B. Asset).

8. Tambay wins, to score his first Grand Prix victory and proving a worthy successor to Villeneuve and Pironi at Ferrari. Arnoux's second, despite bad vibration, kept him in the title race. (Photo: B. Asset).

A serene race by Patrick Tambay for Ferrari made up for the disastrous accident suffered by Didier Pironi. The Brabham refueling ploy failed yet again, with Patrese going out on lap 13 and Piquet pushed off by Salazar on lap 20. Thereafter, Tambay and Ferrari had it all their own way.

With Lauda's withdrawal and Pironi's poleposition vacant, the grid of 25 cars went off cleanly, with only Baldi having to rush into his spare. Arnoux forged quickly into the lead ahead of Prost and Piquet. De Cesaris, who had made the best start among the aspirated engines, was already well behind Tamay, who lay fourth during lap one. Running with half-tanks and planning a halfway pit-stop, Piquet was, however, soon putting pressure on Arnoux and by the end of the second lap was off and clear: a second a lap was well within his grasp and the Brabham tactic seemed a likely winner.

Arnoux obviously had no worries about the contention between himself and team-mate Alain Prost, and Prost, for his part, was suffering from the same high-speed misfire which had dogged him during the early warm-up. Lotus and ATS were both quickly in trouble: de Angelis with skirts and Winkelhock with a clutch cooked at the start. With Cheever already suffering after a brief brush with Alboreto, and Baldi making pit stop after pit stop with misfiring problems, the race settled into the fairly straightforward pattern which governed it for at least half of the scheduled laps: Piquet, up front, was pulling away, Arnoux behind him was simply holding on to second awaiting the champion's pit stop, Tambay had slipped past Prost, while Patrese, in the second Brabham — hedging the Brabham bets with full tanks — was fifth. Behind them, still very much in contact, came de Cesaris, Watson, Rosberg and Alboreto.

On lap 10, de Cesaris made a pit stop and Tambay finally moved ahead of Arnoux. His problem was clear: to make sure he stayed in the race, though his car, on full tanks, was heavier, and survive by keeping his rubber in one piece.

One thing at least was doubly clear, and expected: the turbos were very much in command and, barring failure or accident, the aspirated cars were going to come out very much second best.

Once again, the fates took a hand. On lap 13, Patrese was in the pits with a smoking engine and the Brabham team had lost its insurance. The strain was now all on Piquet. Prost, too, had made a pit-stop to see if a cure could be found for his misfiring problems; a couple of laps more and the jockey-like figure of Prost emerged from the car for good. Brabham one down, Renault one down. Piquet's lead by lap 15 was 21" and the order behind him was Tambay, Arnoux, Watson, Rosberg and Alboreto. Arnoux was beginning to experience the same vibration troubles as at Zandvoort: *"I was thinking of stopping, but I hung on and on and nothing happened,"* said René afterwards.

The moment of high drama occurred on lap 20, just before Piquet's planned refueling pit-stop. Coming into the silly new chicane, with Salazar clearly behind, the Chilean hit Piquet's left rear wheel and Piquet's race was over. But not his dramatics, as Piquet tried first a flat-handed right-hander (he saw Salazar's helmet in time) and then a kick that was two feet short. It was the sort of scene that reminded one of John Cleese telling the daffodils that if they didn't stop their naughty behaviour, he could get rough with them. It did Nelson's image no good, however great the provocation.

Though the race, after these dramatics on and off the track, was relatively uneventful, attrition took its usual toll. Even Rosberg, who looked untroubled seen from afar, was having a series of problems, among others a misfire *"for the last 20 laps of the race. I could do nothing about it,"* said Keke, *"when Patrick came up to lap me."* A gearbox problem then allowed Laffite to haul Rosberg in, and for a while the Frenchman took his Ligier into fourth place on lap 27; two laps later, however, Laffite was again behind Keke and then Alboreto. So much advantage detracted from his concentration: he missed a turn and tore the skirts off his Ligier.

By lap 30, then, the order was Tambay, Arnoux, Watson, Rosberg, Alboreto and a still-running but soon-to-withdraw Laffite. Daly meanwhile had dropped out with a broken valve-spring: unfortunately for Derek, for he was closing on Alboreto and lapping faster then his team-mate.

If the truth be told, little remained in the race after that. Tambay inherited the lead — leaving the Brabham question still unanswered — Arnoux hung on (Tambay had all the leeway he needed to spare his car) and Watson held third until, for a reason McLaren did not accept but John claimed was a broken suspension, he too went off on lap 38.

Only eleven of the 25 cars finished. Brian Henton took a merited seventh behind Giacomelli and Surer, while Guerrero made it home in eighth ahead of a brave Nigel Mansell, whose arm was still giving him waves of pain. Derek Warwick was tenth and Serra, driving for most of the race in the new Fittipaldi without fourth gear, soldiered on to become the last finisher.

Rosberg's third place was a triumph of enduance, while Arnoux was undoubtedly, like Alboreto, grateful to have finished at all. Keke may have said later *"What race? Nothing happened,"* but in fact a great deal did: at last for Patrick Tambay. It was his first win in 53 tries. He had the right tyres and he could nurse his revs from 11,500 down to 10,500 in bringing Ferrari some consolation for Pironi's accident. The race may not have been the best seen this season, but Patrick's performance was both impressive and serene.

Jeff Hutchinson
Keith Botsford

Hockenheim statistics

GERMAN GRAND PRIX

Date : Aug. 8, 1982
Circuit : Hockenheim
Race Distance : 190.055 miles
Weather : Cloudy
Attendance : 95,000

PREVIOUS WINNERS

(Last five races)

1977 :	LAUDA (Ferrari)
1978 :	ANDRETTI (Lotus-Ford)
1979 :	JONES (Williams-Ford)
1980 :	LAFFITE (Ligier-Ford)
1981 :	PIQUET (Brabham-Ford)

STARTING GRID

PIRONI (*)	**PROST**
Ferrari 126C2	Renault RE30B
1'47"947	1'48"890
ARNOUX	**PIQUET**
Renault RE30B	Brabham BMW BT50
1'49"256	1'49"415
TAMBAY	**PATRESE**
Ferrari 126C2	Brabham BMW BT50
1'49"570	1'49"760
ALBORETO	**DE CESARIS**
Tyrrell 011	Alfa Romeo 182
1'52"625	1'52"786
ROSBERG	**WATSON**
Williams FW08	McLaren MP4/1B
1'52"892	1'53"073
GIACOMELLI	**CHEEVER**
Alfa Romeo 182	Talbot-Ligier JS19
1'53"887	1'54"211
DE ANGELIS	**WARWICK**
Lotus 91	Toleman-Hart TG181C
1'54"476	1'54"594
LAFFITE	**WINKELHOCK**
Talbot-Ligier JS19	ATS HGS1
1'54"982	1'55"223
HENTON	**MANSELL**
Tyrrell 011	Lotus 91
1'55"474	1'55"866
DALY	**JARIER**
Williams FW08	Osella FA1D
1'55"876	1'56"250
GUERRERO	**SALAZAR**
Ensign N181	ATS HGS1
1'56"489	1'56"537
BALDI	**BOESEL**
Arrows A4	March 821
1'56"680	1'57"245
SERRA	**SURER**
Fittipaldi F9	Arrows A4
1'57"337	1'57"402

Not qualified

Byrne (Theodore TY02) 1'59"007
Keegan (March 821) 1'59"951
Fabi (Toleman—Hart TG181C)

Did not start

Lauda (McLaren MP4/1B) 1'52"683
(*) As Ferrari didnot officialy withdraw car nº28 Pironi's pole position remained empty.

DRIVERS' WORLD CHAMPIONSHIP

(After South Africa, Brazil, USA West, San Marino, Belgium, Monaco, Detroit, Montreal, Holland, Great Britain, France, Germany)

1.	PIRONI	—	1	—	9	—	6	4	—	9	6	4	—	39
2.	WATSON	1	6	1	—	9	—	9	4	—	—	—	—	30
3.	ROSBERG	2	—	6	—	6	—	3	—	4	—	2	4	27
4.	PROST	9	9	—	—	—	—	—	—	—	1	6	—	25
5.	LAUDA	3	—	9	—	—	—	—	3	9	—	—	—	24
6.	PATRESE	—	—	4	—	—	9	—	6	—	—	—	—	19
	ARNOUX	4	—	—	—	—	—	—	—	—	—	9	6	19
8.	PIQUET	—	—	—	—	2	—	—	9	6	—	—	—	17
9.	TAMBAY	—	—	—	—	—	—	—	—	—	4	3	9	16
10.	ALBORETO	—	3	3	4	—	—	—	—	—	—	1	3	14
11.	DE ANGELIS	—	—	2	—	3	2	—	3	—	3	—	—	13
12.	CHEEVER	—	—	—	—	4	—	6	—	—	—	—	—	10
13.	MANSELL	—	4	—	—	—	3	—	—	—	—	—	—	7
	DALY	—	—	—	—	—	1	2	—	2	2	—	—	7
15.	VILLENEUVE	—	—	—	6	—	—	—	—	—	—	—	—	6
	REUTEMANN	6	—	—	—	—	—	—	—	—	—	—	—	6
17.	DE CESARIS	—	—	—	—	—	4	—	1	—	—	—	—	5
18.	JARIER	—	—	—	3	—	—	—	—	—	—	—	—	3
	SURER	—	—	—	—	—	—	—	2	—	—	—	1	3
20.	SALAZAR	—	—	—	2	—	—	—	—	—	—	—	—	2
	WINKELHOCK	—	2	—	—	—	—	—	—	—	—	—	—	2
	GIACOMELLI	—	—	—	—	—	—	—	—	—	—	—	2	2
23.	BALDI	—	—	—	—	—	—	—	—	1	—	—	—	1
	LAFFITE	—	—	—	—	—	—	1	—	—	—	—	—	1
	SERRA	—	—	—	—	1	—	—	—	—	—	—	—	1

RESULT

1. **TAMBAY** (Ferrari 126C2), 45 laps (190,055 miles) in 1hr27'25"178, average speed 130.42 mph.

2.	ARNOUX	Renault RE30B	16"379 behind
3.	ROSBERG	Williams FW08	1 lap behind
4.	ALBORETO	Tyrrell 011	1 lap behind
5.	GIACOMELLI	Alfa Romeo 182	1 lap behind
6.	SURER	Arrows A4	1 lap behind
7.	HENTON	Tyrrell 011	1 lap behind
8.	GUERRERO	Ensign N181	1 lap behind
9.	MANSELL	Lotus 91	2 laps behind
10.	WARWICK	Toleman-Hart TG181C	2 laps behind
10.	SERRRA	Fittipaldi F9	2 laps behind

CONSTRUCTOR'S WORLD CHAMPIONSHIP

1. Ferrari 61 pts - 2. McLaren 54 pts - 3. Renault 44 pts - 4. Williams 40 pts - 5. Brabham 36 pts - 6. Lotus 20 pts - 7. Tyrrell 14 pts - 8. Talbot 11 pts -9. Alfa 7 pts - 10. ATS, Arrows 4 pts - 12. Osella 3 pts - 13. Fittipaldi 1 pt.

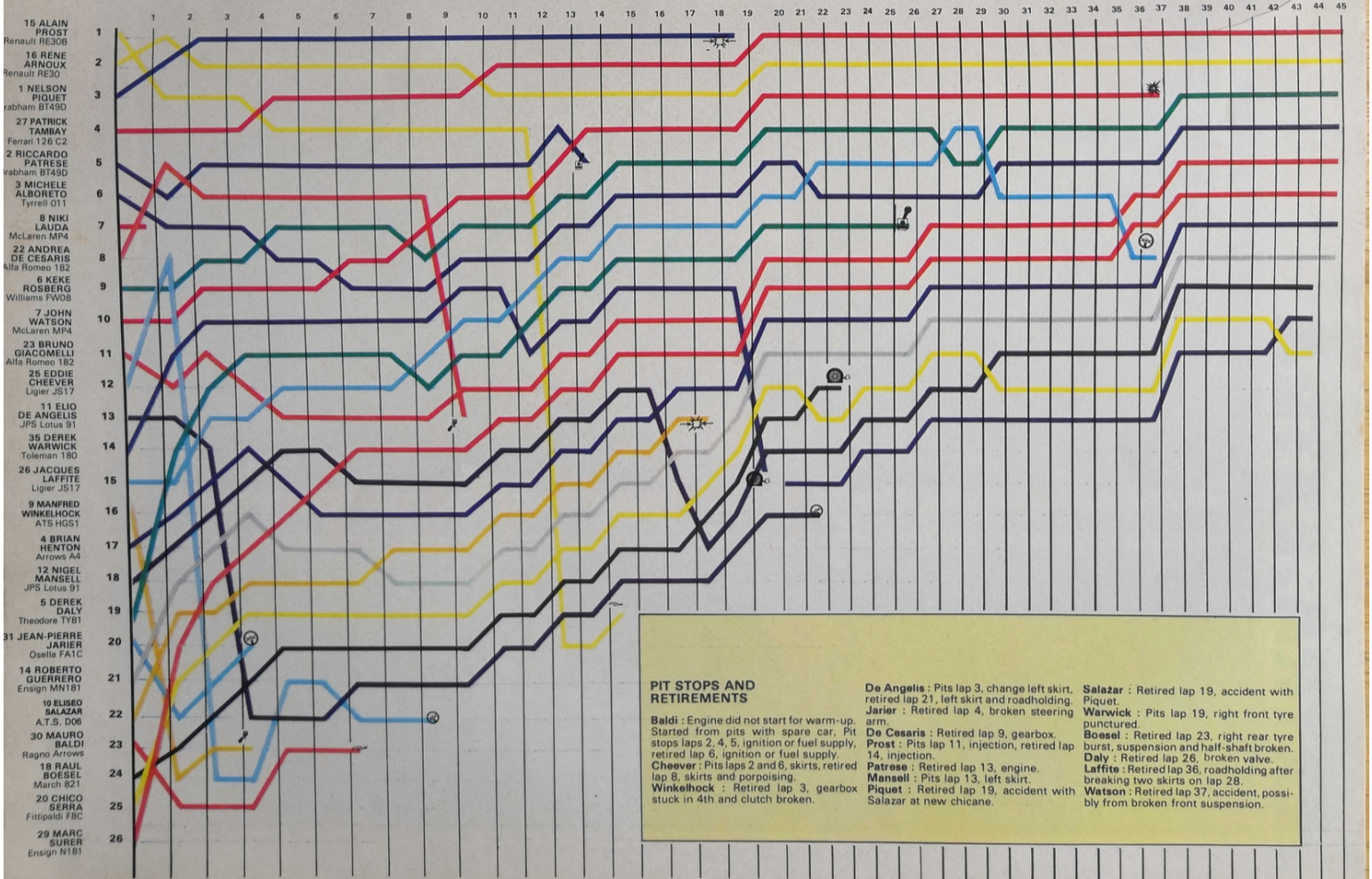
OFFICIAL QUALIFYING TIMES

	Untimed practice 1	Timed practice 1	Untimed practice 2	Timed practice 2	Warm-up sunday
PIRONI	1'51"133	**1'47"947**	2'10"941	—	—
PROST	1'52"272	**1'48"890**	2'17"617	2'07"540	1'55"580
ARNOUX	1'54"220	**1'49"256**	2'23"822	2'11"164	1'54"778
PIQUET	1'52"689	**1'49"415**	—	2'03"434	1'53"803
TAMBAY	1'52"812	**1'49"570**	2'13"473	2'04"090	1'54"184
PATRESE	1'52"348	**1'49"760**	—	—	1'55"384
ALBORETO	1'53"762	**1'52"625**	—	—	1'57"537
LAUDA	1'51"513	**1'52"683**	—	—	—
DE CESARIS	1'53"733	**1'52"786**	—	2'08"873	1'55"721
ROSBERG	1'57"061	**1'52"892**	2'13"173	2'05"368	1'57"067
WATSON	1'53"979	**1'53"073**	—	2'07"821	1'57"807
GIACOMELLI	1'56"514	**1'53"887**	—	2'12"880	7'09"635
CHEEVER	1'55"445	**1'54"211**	2'17"981	—	1'57"350
DE ANGELIS	1'55"538	**1'54"476**	—	—	1'58"346
WARWICK	1'56"902	**1'54"594**	—	—	1'58"848
LAFFITE	1'56"791	**1'54"982**	—	—	1'57"329
WINKELHOCK	1'55"718	**1'55"223**	2'13"338	2'11"546	1'59"465
HENTON	1'56"115	**1'55"474**	2'23"030	2'11"280	1'58"686
MANSELL	1'56"377	**1'55"866**	—	—	1'59"277
DALY	1'59"364	**1'55"876**	2'12"794	2'07"514	1'58"130
JARIER	1'57"378	**1'56"250**	—	2'11"607	1'59"104
GUERRERO	1'56"583	**1'56"489**	—	2'14"398	2'01"007
SALAZAR	1'57"627	**1'56"537**	2'24"167	2'11"823	1'59"285
BALDI	1'58"151	**1'56"680**	—	2'12"107	1'59"167
BOESEL	2'00"036	**1'57"245**	—	2'13"758	2'01"396
SERRA	1'57"746	**1'57"337**	—	—	2'00"250
SURER	1'58"081	**1'57"402**	—	2'10"226	2'00"867
BYRNE	2'00"859	**1'59"007**	—	2'13"032	2'02"256
KEEGAN	2'03"277	**1'59"951**	—	—	—
FABI	2'01"132	—	2'19"047	—	—

THEIR FASTEST LAPS

	Time	Lap nº
PIQUET	1'54"035	07
TAMBAY	1'54"805	29
ARNOUX	1'55"825	03
PROST	1'56"312	03
PATRESE	1'56"460	03
WATSON	1'57"000	14
LAFFITE	1'57"454	18
WARWICK	1'57"794	38
DE CESARIS	1'57"838	06
ROSBERG	1'57"882	06
DALY	1'57"927	18
ALBORETO	1'58"190	05
GIACOMELLI	1'58"193	40
DE ANGELIS	1'58"246	20
MANSELL	1'58"447	39
HENTON	1'58"848	13
SURER	1'59"025	34
CHEEVER	2'00"033	05
SALAZAR	2'00"040	17
GUERRERO	2'00"167	35
JARIER	2'01"238	03
BOESEL	2'01"692	12
WINKELHOCK	2'03"946	02

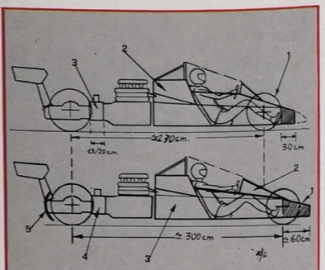
ıde - Lap by lap - Giro per giro - Runde um runde - Tour par tour - Vuelta a vuelta - 1


1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45
15 ALAIN PROST Renault RE30B
16 RENE ARNOUX Renault RE30
1 NELSON PIQUET rabham BT49D
27 PATRICK TAMBAY Ferrari 126 C2
2 RICCARDO PATRESE rabham BT49D
3 MICHELE ALBORETO Tyrrell 011
8 NIKI LAUDA McLaren MP4
22 ANDREA DE CESARIS Alfa Romeo 182
6 KEKE ROSBERG Williams FW08
7 JOHN WATSON McLaren MP4
23 BRUNO GIACOMELLI Alfa Romeo 182
25 EDDIE CHEEVER Ligier JS17
11 ELIO DE ANGELIS JPS Lotus 91
35 DEREK WARWICK Toleman 180
26 JACQUES LAFFITE Ligier JS17
9 MANFRED WINKELHOCK ATS HGS1
4 BRIAN HENTON Arrows A4
12 NIGEL MANSELL JPS Lotus 91
5 DEREK DALY Theodore TY81
31 JEAN-PIERRE JARIER Osella FA1C
14 ROBERTO GUERRERO Ensign MN181
10 ELISEO SALAZAR A.T.S. D06
30 MAURO BALDI Ragno Arrows
18 RAUL BOESEL March 821
20 CHICO SERRA Fittipaldi F8C
29 MARC SURER Ensign N181

PIT STOPS AND RETIREMENTS

Baldi : Engine did not start for warm-up. Started from pits with spare car, Pit stops laps 2, 4, 5, ignition or fuel supply, retired lap 6, ignition or fuel supply.
Cheever : Pits laps 2 and 6, skirts, retired lap 8, skirts and porpoising.
Winkelhock : Retired lap 3, gearbox stuck in 4th and clutch broken.
De Angelis : Pits lap 3, change left skirt, retired lap 21, left skirt and roadholding.
Jarier : Retired lap 4, broken steering arm.
De Cesaris : Retired lap 9, gearbox.
Prost : Pits lap 11, injection, retired lap 14, injection.
Patrese : Retired lap 13, engine.
Mansell : Pits lap 13, left skirt.
Piquet : Retired lap 19, accident with Salazar at new chicane.
Salazar : Retired lap 19, accident with Piquet.
Warwick : Pits lap 19, right front tyre punctured.
Boesel : Retired lap 23, right rear tyre burst, suspension and half-shaft broken.
Daly : Retired lap 26, broken valve.
Laffite : Retired lap 36, roadholding after breaking two skirts on lap 28.
Watson : Retired lap 37, accident, possibly from broken front suspension.

EXTRA, EXTRA



WHAT COULD BE DONE

Since Didier Pironi's accident in Germany, many drivers and technical observers have requested that as an elementary safety measure, the drivers' feet should no longer be in front of the axis of the front wheels — as they are now in all the cars. That is because the technique of building a wing car requires a big central fuel tank and an oil tank between the motor and gearbox, and for the best weight distribution, pushes the driver towards the front of the car.

The upper drawing is of a current F1 car :

1/The driver's feet are in front of the axis of the front wheels with the only protection in the case of frontal impact being the 30 centimeters of deformable structure.

2/The big central fuel tank, located as it is for distribution of mass, pushes the driver forward.

3/Between engine and gearbox, space for the oil tank.

In the lower drawing, what the drivers are seeking :

1/ That their feet no longer project ahead of the centre line of the wheel and that the deformable structure ahead be doubled to 60 centimeters to absorb more of a frontal impact, in which the wheels would also play a shock-absorbing role.

2/Lengthening the front would also give the driver more protection if the car turned over.

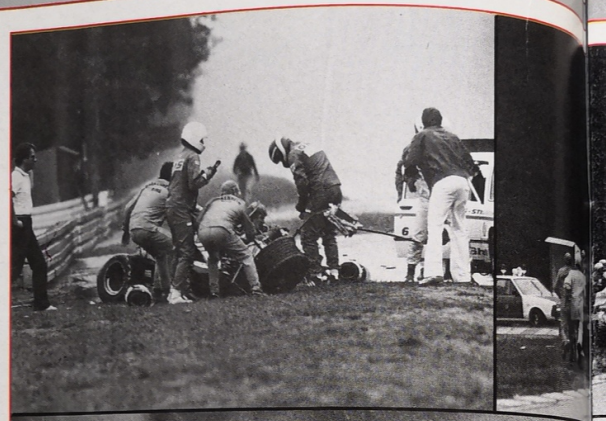
3/If the engineers baulked at lengthening the wheelbase, they could build higher, shorter central tanks to keep the same wheelbase at the loss of some aerodynamic advantage. The Williams FW 08, originally designed as a six-wheeler, has a very short wheelbase (about 247 cm), the driver being placed very far forward. Most of the cars have a wheelbase of about 270 cm, so Williams could give their drivers better protection without changing the shape of the tanks and keeping a reasonable wheelbase.

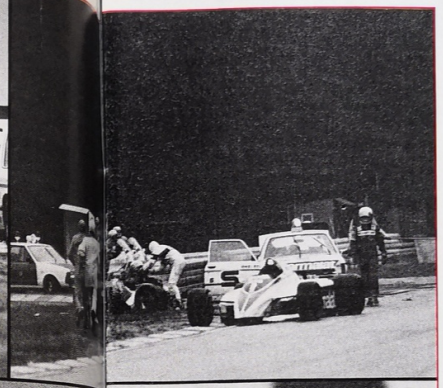
4/It is also possible to save several centimeters in the wheelbase by reducing the distance between the engine and gearbox.

5/In case of rain, the cars could be equipped with a type of mudguard to reduce the projection of spray. These mudguards would be of a single type for all cars.

The drivers' suggestions are perfectly practical. Furthermore, by changing the weight distribution these measures would reduce performance. It would even be possible by working on the shapes of the tanks, and in other areas, to keep the existing wheelbase while keeping the drivers' feet behind the front wheels. In the drawing we have simply lengthened the car by 30 centimeters to highlight the differences.

Giorgio Piola





THE ACCIDENT

Before the German and Austrian weekends, Didier Pironi looked clearly on his way to the World Championship. After John Watson, Alain Prost and Niki Lauda failed to improve their positions, it would have seemed the more certain. Given an outside chance, Didier could still take the crown. But not on the road.

As we write, he is lying in a hospital bed in Heidelberg, by chance one of the world's leading centres for road accident treatment, and despite the grim environment, it can be reasonably said that he is lucky to be there. Like his team leader Gilles Villeneuve, he could have lost his life in that stupid accident. Indeed, the injuries to his right leg were so serious that there was a fear of amputation for a considerable time.

To say "stupid accident" is to be redundant. Except for obvious mechanical failures, as in the case of René Arnoux at Zandvoort, all accidents are stupid, meaning inexplicable and defying reason.

Such was Didier Pironi's : Saturday, August 7, it was pouring rain and the Hockenheim track was awash. Those few cars that did go out — only seven in the first few minutes — threw up huge plumes of spray. From behind, the car was not visible, just the wall of water. That is the problem with F1 cars now, with their rain tyres that are highly efficient in evacuating water, and with the underbody venturi effect channeling extra water into the spray area. According to Keke Rosberg, in fact, ground effect has made the cars much easier to drive in the wet, the downforce increasing the grip immeasurably. *"You can go flat out where with a pre-1978 car you would have been tipotoeing just to stay on the road,"* he said. Indeed, Keke added, *"you should go flat out all the time in rain because all you can see of the car ahead is the spray, and a slow car is doubly dangerous."* Alain Prost said he drove by ear, braking if he heard the engine note ahead drop.

The fastest of the six other drivers was Patrick Tambay in the other Ferrari, who did one lap at 2'14"246. Didier did 2'10"941. He was going diabolically fast, and seeing the Ferrari winding through the corners in the Stadium was a pleasure to the eye of the connaisseur. A pleasure mixed with concern.

When he came out of the chicane on the back straight for the fourth time, Didier was on the limit. Ahead, the wall of spray thrown up by the tyres of another car. Suddenly, nearing the braking point for the entry into the Stadium, the wall of spray moved : Derek Daly had flicked right, and Pironi accelerated, thinking that the Williams was moving over for him. But the spray hid another car and in a fraction of a second, Pironi found Alain Prost's Renault in front of him, going only about 120 mph at the end of his first flying lap. Pironi was around the 150 mph mark, and it was too late to do anything. The Ferrari crashed into the right rear of the Renault, hurtled into the air, nose up, went over Prost's cockpit twice before finally crashing into the ground and the Armco, 300 yards on. Prost, then Eddie Cheever and Nelson Piquet, stopped at the scene, then returned to the pits so shocked it would have been indecent to question them. The Brazilian, who took Didier's helmet off, nearly fainted at the sight of his injuries and had to walk away, ill, as the rescue crews started work.

After nearly 30 minutes, Pironi was at last released from the twisted remains of the car, which was found to have 191 litres of fuel on board and with one of the safety harness attachment points broken. On Gilles' Ferrari last May, both harness points broke.

It is still soon to know what the future will bring for Pironi. Or rather, what future Pironi will construct for himself, because willpower plays an enormous role in such circumstances, and he has already proved he has his measure, and more.

But it is right to raise, once more, the safety problem, indeed, the absence of safety in modern F1 cars.

Giorgio Piola has drawn on the comments of the drivers to show (opposite) what first urgent steps could be taken to protect the drivers' legs and to improve visibility in rain.

The question has been asked. It was raining, it was untimed practice, Didier had taken pole the previous day, he was leading the world championship, why on earth take such a risk ?

We believe it is because he is a fighter, as was Gilles Villeneuve, and not a cold, calculating, machine, as some of the Italian press has suggested. He proved in Formula Renault, in F3 at Monaco, in F2 and then with Tyrrell and Ligier in Grand Prix racing that he had class and flair.

It is tragic that it was just those qualities, coming out again after the deliberately sober races at Brands Hatch and Paul Ricard, that were his downfall.

The title of World Champion looks more than doubtful, the prospect of a continuation of his great career too. But great drivers never sacrifice speed for wisdom. Ask Alan Jones or Nelson Piquet...

Didier Braillon

Postcard from Hockenheim

Ragnotti attacks !!

Got a peanut ?

Johnny Cecotto and Corrado Fabi came visiting from Misano

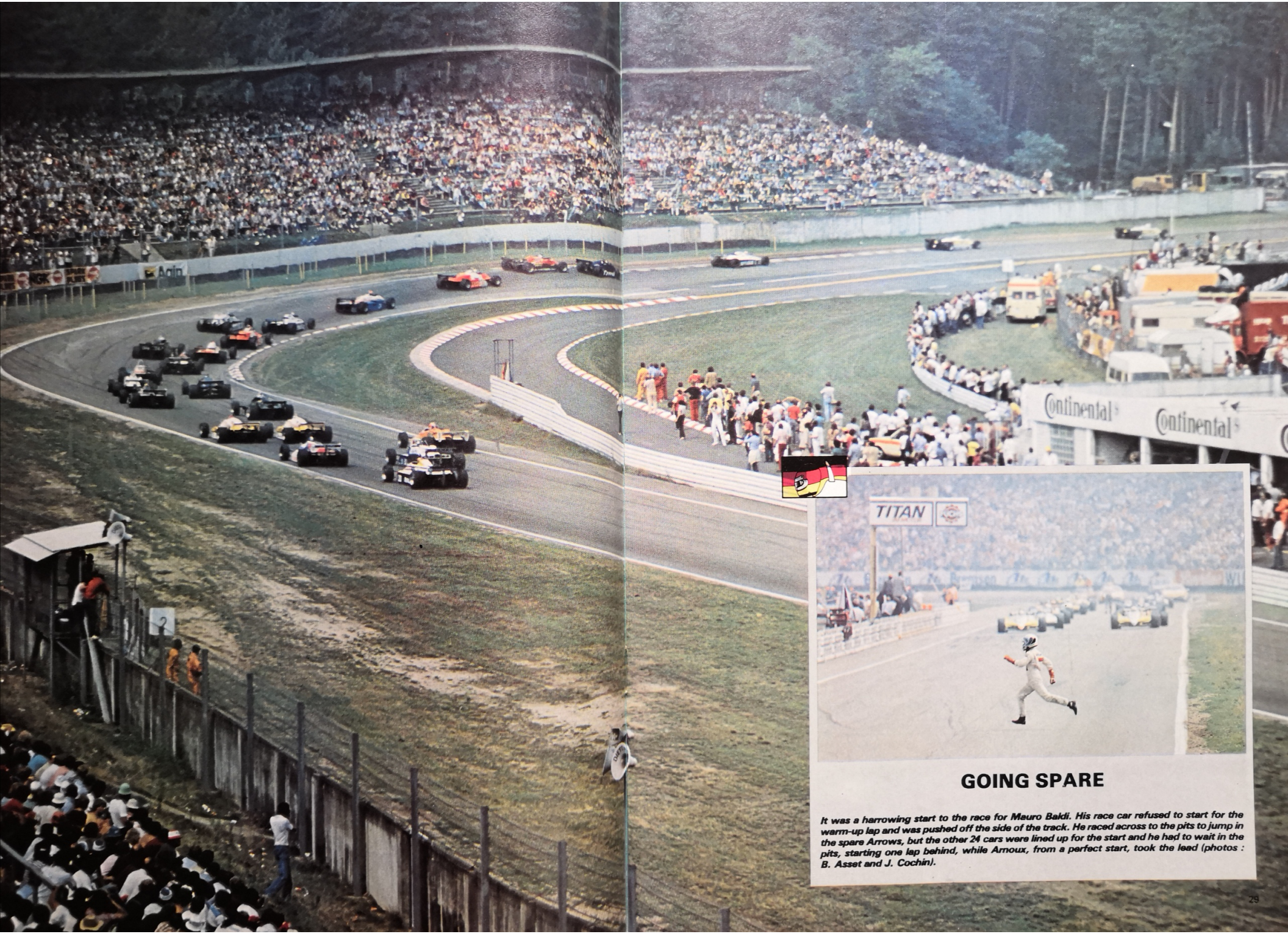
A super Sauber

Love, G.P.I.

Niki hadn't hurt his wrist they ...

The Playboy party was well attended

Group C gladiators relax



GOING SPARE

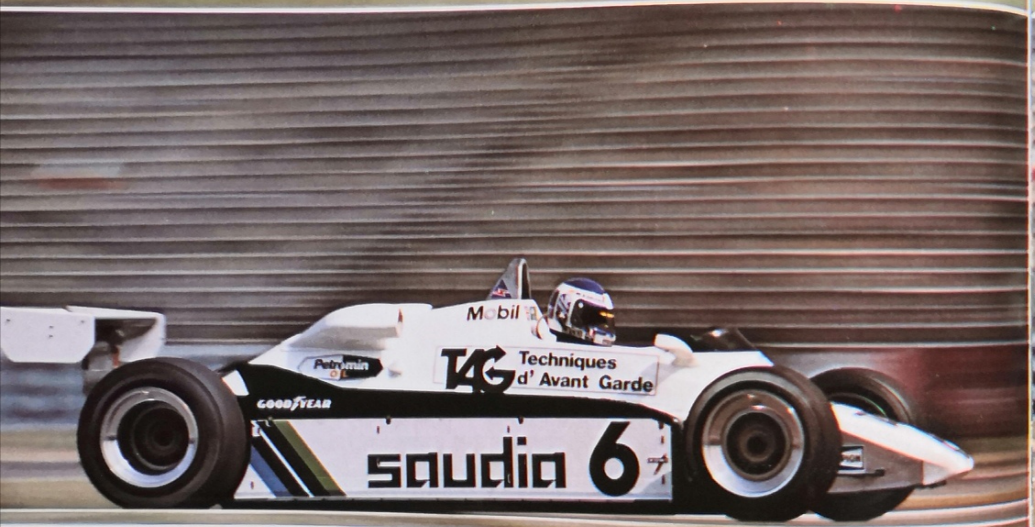
It was a harrowing start to the race for Mauro Baldi. His race car refused to start for the warm-up lap and was pushed off the side of the track. He raced across to the pits to jump in the spare Arrows, but the other 24 cars were lined up for the start and he had to wait in the pits, starting one lap behind, while Arnoux, from a perfect start, took the lead (photos : B. Asset and J. Cochin).

NIGHTMARE

You have been doing more than 150 mph on a skating rink, with the spray blinding anyone behind, so it's nice to relax when the sun comes out and say that the nightmare is over, to wipe out the memory and prepare for the next test. Rene Arnoux is no exception... (photos : J.-P. Longuet and J.-M. Loubat).

TWILIGHT

When a practice session is drenched in rain, lit only from heavy black clouds, some people stop working. But not the determined Irishman Derek Daly, nor our photographer... (photo : B. Asset).



SPEED

Tambay, Arnoux and Rosberg went on to — the rostrum in Germany ; Piquet, Laffite and Watson retired. But the photos of these six cars have one thing in common - they are remarkable examples of the difficult art of catching Grand Prix cars at high speed, here, in the Hockenheim stadium (photos : G. Rakic).

HORSEPOWER 580 FROM A STOCK BLOCK !

The BMW four-cylinder 1.5 litre engine which produces, for F1 use, 580 horsepower at 11,000 rpm is a deceptively simple device. Its cylinder block is taken directly from the production car engine line, and then — like the 2-litre version which has just won its seventh European F2 title — it is extensively modified. The secret of the engine, though, is undoubtedly the enormously complicated Bosch micro-processor, which can "read" signals fed to it from vital parts of the engine and react in less than one complete revolution of the engine itself.

Although a BMW F1 engine block usually starts life as a new component, the engine-builders at Muchich prefer one with plenty of miles on it from road use ! *"Road miles take all the stresses out of the block"*, they say, *"A new block has to go into a special oven to be heated, which more or less duplicates the running-in process."* Not surprising when one considers how many parts they have in common.

First there is the block itself, a straightforward iron casting. It is machined on the outside, to remove certain parts not required and reduce its weight by about 7 kg. The internal parts, inside the lower half, are hand-fettled to smooth the passage of the oil and air mixture churned up by the crankshaft. The only difference from the F2 blocks is that, for F1, slightly larger water passages are provided, and grooves are machined in the cylinder head to allow excess pressure from the combustion chambers to escape. Metallic rings are fitted carefully into recesses around the top of each bore : the fit is

→

extremely critical, for any variations from specification will lead to immediate loss of pressure.

Among the parts which the F1 and F2 engines have in common are the entire cylinder head assembly, the specially cast dry sump and the titanium (1000 DM each !) connecting rods. The lower 1500 cc cylinder capacity of the F1 is obtained by a short-throw crankshaft (60 mm instead of 80), and by the low compression pistons (6.7 :1 instead of 11.2:1) fitted. A water pump with a larger capacity is fitted to the F1 engine ; where the water pump is found on the F2 version, the F1 engine has its high pressure fuel pump.

Apart from the block the BMW engine is, of course, a 100 per cent purpose-built racing unit. The current version has been under development since 1972, when Jean-Pierre Jarier won BMW's first F2 championship in conjunction with March. It is estimated that it takes about 30 hours just to disassemble a BMW engine and to complete a routine rebuild. This is, in fact, slightly longer than the time required for a similar rebuild on a Cosworth V8 engine.

Unlike the rival "turbo" factories of Renault and Ferrari, which build and assemble complete racing cars, the BMW Motorsport factory is not a particularly exciting place. The Bavarian workers move quietly and purposefully around the two clean shops where engine builds are completed, and it is only steam from the chimney of the neighbouring test cell which reveals that an engine is being run up on one of the four test beds, for the noise is almost completely damped out by super-effective sound proofing.

GPI's photographer Bernard Asset, however, was privileged to be admitted to one of these test cells to take some of the pictures which accompany this article. When Bernard saw that the test cell operators monitor their engines via black and white TV sets instead of through potentially fragile glass windows, he realised that this "privilege" was in fact a somewhat dubious one. In the interests of objective reporting, however, he stayed by his Canons despite the closeness of a racing engine being wound up to around 8000 rpm. And he was only sweating slightly when eventually the door was opened and he was invited back to the comparative calm of the exterior.

While recognising the kindness of BMW in permitting us to see the engine rebuilding shop, it must be said that we neither saw nor understood too much of the F1 engine's "brain", the remarkable on-board micro-processor computer developed by Bosch which controls all of its vital functions.

As Horst Rech, the engineer who assists Paul Rosche, told us, *"we need more than 50 per cent of our time and capacity here just to operate the Bosch system. It has so many possibilities that we cannot yet use them all, and we are finding new uses all the time."*

While Bosch makes the hardware, it is BMW's own engineers who prepare the programmes for the "black box" (actually an aluminium box which contains some of the parts from the electronic system found on certain 6-cylinder BMW passenger cars) and these programmes are then "productionised" by Bosch into permanent circuits. This arrangement does not always work perfectly, as Rech explained.

"After our big test at Donington Park last year we discovered that we had a particularly good programme, so we told Bosch that we needed eight computers exactly like that one. Unfortunately, we were to discover that the programme was not exactly the same... and it takes time to find out why not."

Information is fed into the computer so that it "knows", for example, how much boost is being developed, together with certain temperatures. It reacts virtually instantaneously — usually in considerably less time than crankshaft takes to make a complete revolution — "instructing" the metering unit how much fuel to deliver and the ignition when to fire. Minor adjustments can be made inside the box to the fuel mixture settings and to regulate the rev limiter.

There is also a telemetry output which can inform the BMW engineers by radio exactly what is happening inside the engine. The information is processed into a television read-out signal on equipment carried inside a special truck, and there is a famous story of an incident at Silverstone when the engineers spotted something seriously awry with the engine as the Brabham sped through the chicane just before the pits.

Several chunky Bavarians are said to have tumbled out of the telemetry vehicle in a desperate bid to get the test driver to switch off his engine immediately. They were a fraction of a second too late and, sure enough, the engine expired in a loud bang before it had even got to Copse, the first turn after the pits.

It is the computer which, when operating correctly, not only enables the BMW engine to be run to the limits of its performance, but also enables it to use its fuel most efficiently. It is believed that although Ferrari and Renault are both experimenting with electronically operated fuel injection and ignition for their turbo engines, they have not yet reached the degree of sophistication which enables the Brabham-BMW to start GPs with significantly less fuel.

Sheer horsepower is not easy for an engineer to quantify, involving as it does such factors as the air temperature and barometer readings on the day when the engine is tested. *"We can only guess at the power of the rival V6 engines"*, says Rech. *"As far as our engines are concerned, we have 580 horsepower at 11,000 rpm. But we use different turbocharger units, depending on the type of circuit and how much power flexibility we need to keep the drivers happy. For example, with the smallest of the four types of KKK turbo which we use, full boost is developed at 5,500 rpm, while the largest unit comes later, at 7,500 rpm."* □

Working on a Grand Prix car with a 1500 cc turbo during a Grand Prix weekend is a big job. At Brabham, while Gordon Murray looks after the chassis, the men from Munich watch over the engines. Their test gear is on a par with the top level of engine technology : electronics, advanced measuring instruments, black boxes, and computers are involved. One of the major objectives is to optimise the power output while substantially reducing the fuel consumption.

BMW MOTORSPORT: POWER TO MAKE PEACE

Of the three "Grandee" constructors in Formula 1, BMW alone makes just engines for the sport. They are used to power the Brabham cars owned by FOCA boss Bernard Ecclestone, who so often finds himself ranged politically against those major teams. On a special visit to the Munich headquarters of BMW Motorsport, we discovered not only an efficient engine-building operation with one GP victory already to its credit, but a real desire and willingness to help F1 out of its technical impasse.

by Mike Doodson

As a company, BMW finds itself in an invidious position. On the one side, it is a major car manufacturer, one of "grandees", and has cast its hand in with the political motorsporting aims of Renault, Ferrari, Alfa Romeo and their vassals. Yet BMW supplies its very effective racing engines to the Brabham team, whose owner, Bernie Ecclestone, through FOCA, represents what some choose to describe as the "artisans" of Formula 1.

It has been said that Ecclestone is duty-bound to oppose the advent of turbocharging to Formula 1. After ten years of stability with the cheap, simple and reliable Ford-Cosworth engine, F1 is presently in a turmoil over the turbo. But as a senior official of BMW recently explained to us, *"we went with the Brabham team for two reasons. First we wanted to be involved with someone who had an influence on what was happening in Formula 1. And, second, we wanted to join forces with a man who has the technical wizardry of Gordon Murray, Ecclestone's chief designer."*

Who, therefore, is using whom ? For Ecclestone, the BMW engine represented a very convenient weapon : should FOCA'S campaign to restrict the power and expense of turbo engines fail, the BMW engine was an excellent reserve. Sometimes Ecclestone gave the impression of dragging his feet in using the BMW engine in his Brabham cars, perhaps to calm his fellow FOCA members' suspicions. This dilatoriness earned him some very public admonishments from BMW before this year's Belgian GP. At other times it seemed that BMW — whose own engine development has had to travel a long and occasionally rocky road — was glad that there was no pressure from Brabham to deliver an instant winner. In short, both seemed partners in delay.

In fact there is much more give and take in the partnership than has been evident from reading the German press. The relations between press and manufacturer are a subject about which Dieter Stappert, *Rennleiter* of BMW's Motorsport division, is well aware, for until 1975 he was the editor of the Swiss monthly magazine *Powerslide*. Stappert, an Austrian, says that the German press is almost as impatient with BMW as the Austrian sports writers are with their skiing stars.

"I really adore the French public and the French press for the tolerance they have with Renault", he says. *"To be honest, if we had waited as long as they have for a big success in Formula 1, well... I don't think we would be around anymore. For us, winning in Montreal was a dream. You can't say that it came too early for us. The only trouble is that now everyone expects us to win every time..."*

It is Stappert's duty to advise the BMW board on its motor racing policy. Although the company has spent substantial sums on the sport in recent years, it is not really essential to Company policy ; Formula 1 is something which board members can take or leave as they wish. Because they hadn't been doing a lot of taking until Montreal, the ultimatum issued to Ecclestone before Zolder suggested they might very well leave the sport altogether; selling even more much sought-after quality motor cars came first.

But the two partners emerged from the "ultimatum" showdown with such good relations that the matter has now been virtually forgotten, perhaps even by the German papers. *"It was difficult to explain to our German press why we weren't going racing"*, says Stappert, *"even though there were very good technical reasons why we weren't racing our engine after our one outing at the South African GP".*

"For whatever reason, Ecclestone has a bad reputation. People find it difficult to believe he does something for the obvious reason ; the obvious reason can't possibly be true, there must be something behind it. As Bernie said to me at Brands Hatch about this pit stop thing, whatever you do in F1, people will never believe the truth. You might as well tell the truth, because they're not going to believe it anyway."

"The press loves to write about politics ; it stimulates their invention. But when you're actually racing, the worst that can happen, from a manufacturer's point of view, is to have two engines explode on the first lap. That gives the papers something real to write about. They don't have to invent that or discuss politics."

This is not to deny that Brabham and BMW have not had their misunderstandings. They went testing at Zolder shortly before the San Marino GP at Imola to find out why the South African race car had been short of braking power and road holding. But the car that turned up at Zolder had only half of the modifications promised. This would have been understandable if the team had shown a little more enthusiasm for the Belgian test, but the very fact that only a couple of mechanics were sent with it, and neither Murray nor his assistant Dave North were present, suggested that Brabham regarded the long flirtation with BMW as being close to its end. That is certainly what the German press, with its nose for a good story, assumed.

"The fact remains that car went well", says Stappert. *"Instead of doing them (Brabham) the favour of blowing up, it did us the favour of sticking together, and also going very quickly."*

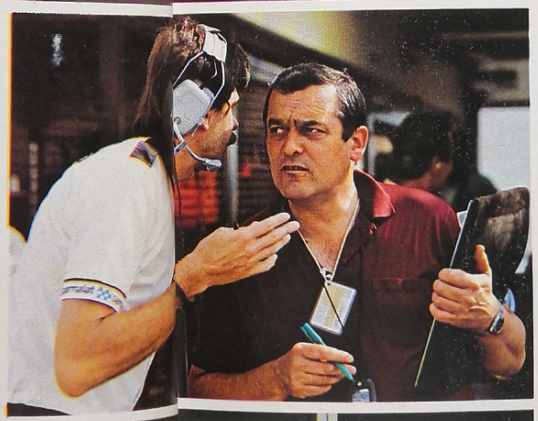
The incident appears to have been the turning point in the relationship with BMW, for the test convinced Piquet. *"I suspect Nelson had a very serious discussion with Bernie and argued that our engine was the one to use. Nelson has been a great ally for us. Though he might finish fewer races and earn less starting money, he wanted to use our engine. He said : "OK, we throw the championship out of the window for 82, but next year we'll be in good shape : we'll have a developed engine and a good chance of winning the title."*

The Montreal victory, in only BMW's fifth race with Brabham, showed that BMW probably had at least as much power as the V6s, certainly with the boost at "race" level. But Stappert recognises that unrestricted turbos should not be allowed to distort lap times, especially in practice. He and Paul Rosche, who is the engineering "rock" on which BMW Motorsport is built, were concerned at the trap speeds being recorded at Ricard by the Ferraris, which translated (according to Rosche) into engine outputs of 700 horsepower. *"We agree entirely that power should be restricted"*, says Stappert. *"We have to reduce these speeds. With our boost at 2.0 atmospheres instead of 1.8 we probably have 600 horsepower from our engine. Unfortunately, although everyone agrees that something should be done, nobody can agree over exactly what should be done. And how can I tell Paul to reduce the horsepower of his engine ?"*

Whatever happens to the regulations, Stappert sticks by his promise early in 1981 that the BMW turbo engine will be made available to other teams. Their ability to afford the 130,000 DM (about £ 30,000) purchase price will apparently not be the only criterion for their selection. Indeed Stappert sees the agreement with Brabham running to the end of the contract in 1984, with only one team joining Brabham in the BMW camp next year. Our friends in the German press constantly speculate that the second team will be either ATS or possibly Maurer, but Stappert says that the successful candidate will not be chosen by "nationality", but because it is competitive. The grapevine currently tips Williams as BMW's choice, and some little birds suggest that Frank Williams already has a turbo-four on the floor of his Didcot factory.

If that sort of a deal goes ahead, then BMW's peace-keeping role in the suicidal F1 battle will become even more important. Asked what his company's attitude will be, Stappert replies with the sort of pragmatism so often missing in the rhetoric of today's racing men :

"We're not in racing to cause trouble", he says. *"We think we have something to contribute and we want to see peace restored. After all, isn't that what everyone wants ?"* □



The first time a BMW engine appeared in Formula One was at the Race of Chamions in 1967, in a Lola driven by John Surtees, but it was a 2-litre engine designed for record-breaking. Now, 15 years later, BMW's involvement in Grand Prix racing is total and the key people are Dieter Stappert, the competitions chief (above) and Paul Rosche, the engine designer, here in conversation with Gordon Murray (centre). To learn more about the project, GPI sent Mike Doodson to Munich (below) on the eve of the German GP.

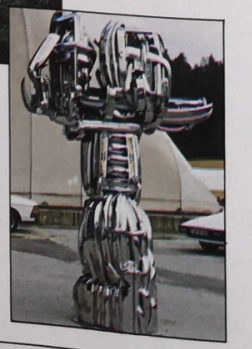
Postcard from Zeltweg

Italy's Frecce Tricolore rivalled the Red Arrows

Bibendum in hiding?

Mauro Forghieri replaced Guy Ligier as the bandmaster of the Obdach oompah band this year

Zeltweg's a long way from Detroit and Vegas!!



Alfas which did more than 50 yards!

She didn't realize she was sewing the winner's overalls.

Love G.P.I.

The Osterreichring at Zeltweg is in the heart of the beautiful Austrian province of Styria. Each year, thousands of fans pack this magnificent grandstand built in natural pine, positioned to give a tremendous view of the pit straight (photos: B. Asset).

THE ART OF GEARS

The ultra clean lines of a car like Niki Lauda's McLaren, seen from trackside, tells you little of what is inside. But when the team starts doing its sums to decide the best gear ratios after the first practice session, and the mechanics start changing the gears, you can see what mechanical beauty means. Art and Industry often come together in Formula One (photo: B. Asset).

Alain Prost left Zeltweg understandably depressed, the more so because the troubles that hit Brabham gave him a very reasonable hope of victory and nine precious points, despite having had to change unexpectedly to his spare car after a warm-up problem with the race car. Five laps from the flag, he was far in the lead when the injection pump broke and the engine, on fire, expired (photo: B. Asset).

SO CLOSE

Keke Rosberg was only 125/1000ths of a second away from that elusive first Grand Prix victory. but with 33 points in the World Championship, some people already are making him the favourite for the title. He is only six points behind Didier Pironi, with three races to go (photo : B. Asset).

PRACTICE

After three or four days of holiday in Austria, passed, according to taste, in mountain touring, swimming in the overcrowded Worthersee at Klagenfurt or at marvellous trout fishing, the tight little Formula One world met up again at Zeltweg in verdant Styria, for the first day of practice for the Austrian GP. The sky was blue, the temperature excessively

hot, and thousands of *tifosi* crossed the nearby frontier to join local spectators in the innumerable camp sites around the Osterreichring. In the new, modern garages on a pit road considerably widened since last year, the four centres of interest were the Scuderia Ferrari which was running only one car ; Theodore, which struck with the Irish rookie **Tommy Byrne** ; McLaren, where **Lauda** was making his comeback after intensive treatment by his trainer Willy Dungl, and March, where the ''semi-retired'' Rupert **Keegan** was again replacing Mass.

The first untimed session was dominated by four of the five best turbos entered: the Brabham-BMWs, the Ferrari and the Renaults, because **Piquet** was fastest ahead of **Prost, Patrese** and **Tambay**. Behind them, **Alboreto, Lauda, Watson, de Angelis** and **De Cesaris** led the 3-litre class, ahead of **Arnoux** who only did a dozen laps before stopping with injection failure coming out of the

Boschkurve. The session having been stopped earlier to bring in **de Cesaris'** Alfa Romeo which had a broken accelerator cable, Rene thought it would be the same for him. It was not, and he spent nearly an hour sitting in the grass waiting for the chequered flag. **Lauda's** engine on the spare McLaren had broken when he was lapping with a television camera mounted on board, **Warwick** was only able to do seven laps before the front right upper suspension pickup point broke, and during the lunch break, Tyrrell changed **Henton's** engine.

The day was ever hotter for the big battle of the first timed session. Drivers went out slowly and at long intervals, most waiting to see if clouds near the sun would move across and maybe cool the track fractionally during their runs with their two sets of qualifiying tyres.

Prost had the hydraulic ride-height leveller cut out. **Watson** had his engine blow on his first flying lap. All he could do was to take the spare car and his one remaining set of tyres to get an unflattering grid position. **Piquet** and **Patrese** in 1'29''244 and 1'29''645 led the field

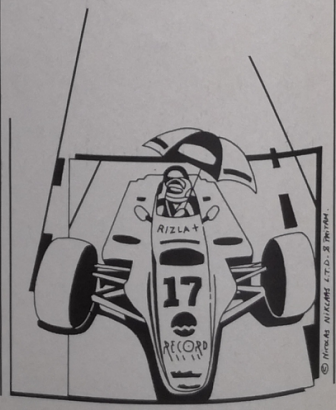
when everyone had used their first set, ahead of **Tambay, Rosberg, Alboreto, Prost** — who had done eight laps broken by a stop — **De Angelis** and **Lauda.** But the extraordinary thing was that the Brabham times were set on hard rubber! When the teams put their second sets, the much-awaited clouds moved in and slightly lowered the ground temperature. The first to improve was **Tambay,** just before he had a clutch failure which caused the gearbox to break up as he was finishing his second flying lap. At Renault, **Prost** was only able to do one lap before having injection problems, and did not improve. Nor did **Rosberg** or **Alboreto**, while it was just not **Arnoux'** day. He had gone out with RE30B/8 but did only one lap before the injection let him down again. He had his tyres changed to the T-car, but that stopped on the track after a few hundred yards with identical symptoms. Without a timed lap and 15 minutes from the end of the session, he tried again with chassis 8 which the mechanics had checked, using his second set of tyres. It was no use. He had to stop at the pits twice without having done a flying lap, and when he went out for his last chance three minutes from the end, the engine simply blew.

At this point, Rene was not qualified, and he could only hope it would not rain on Saturday.

In contrast, things could not have better at Brabham. With their second set of

tyres, real qualifiers this time, **Piquet** and **Prost** set remarkable times of 1'27''612 and 1'27''691, taking 4.5 seconds off the 1980 pole record of 1'32'01. **Piquet's** average speed was 151.72 mph, and the other teams were staggered. **Tambay**, third fastest, was almost two seconds slower, **Rosberg**, leader of the 3-litre brigade was 3''5 behind and **Keegan,** the slowest apart from the unlucky **Arnoux** was almost nine seconds a lap slower!

However spectacular the Brabham performance, it obviously was also frightening, and certain drivers did not hesitate to say what they were thinking -- that the current cars are missiles and that a lap record nowadays is more concerned with ballistics than auto racing... After an overnight storm, Saturday was slightly cooler but just as sunny as Friday. Renault had worked extremely hard to try to solve the injection problem that hit both cars Friday and cost **Arnoux** the chance to qualify. It seemed that the problem had been solved, but as there was still a doubt, RE30B/10 was stripped of the electronic injection system, which was replaced by the pre-Monaco mechanical system. The three cars were thus: mechanical injection, ride-height leveller cut off for **Prost;** electronic injection, ride height system on for **Arnoux;** electronic injection, no ride height system on the spare.



At the end of the morning session, **Arnoux** had not had any problems and this incited **Prost** to change to the spare and choose it for the final qualifying session.

In fact, Alain set a faster time than his teammate -- if, as a French journalist said, one can use that word -- and was also faster than the two Brabhams, while **Lauda** and **De Angelis** led the atmospheric brigade from which **Alboreto** was absent. The front suspension broke on the Tyrrell and he went flying, both back wheels being ripped off when he landed. The 011/5 was sufficiently damaged to be covered with a tarpaulin in the pits and Michele had to do the last session in the old 011/4 spare and could not improve.

Keegan, Salazar and **Piquet** had engines break. Confident in their front row positions, Brabham did not hurry to make a change and **Nelson** was to take the spare out in the afternoon. **Mansell** had a tyre burst, damaging his rear suspension, while **Tambay** set 11th time, carrying 150 litres of fuel and methodically comparing various tyres.

The final session, in slightly lower temperatures, saw most drivers improve, except **Piquet** and **Patrese** who did not need to, **Tambay** who broke a turbo at the start of his fast laps on his second set, **Alboreto** in the spare, **Henton** and **Surer, Cheever** who had no grip and even did one lap in **Laffite**'s car as a control before Jacques ended the session, and **Boesel** whose engine was under power. But the major interest was obviously in **Arnoux.** In his usual car which had gone so well in the morning, he did 1'31''275 with one flying lap which put him in sixth place, before a head gasket went. Depressed, Rene disappeared into the back of the pit while the mechanics prepared Prost's other car for his second set of tyres. **Prost** had shown in the morning that it was slower, but Rene nonetheless got his time down 1'30''261 ahead of **Rosberg,** to complete the standard line-up of five turbos at the top. **Keke,** fastest of the atmospherics, succeded in reducing his gap to the fastest turbo to 2''7, which, over a race distance, meant a massive theoretical difference. **Lauda** had a mediocre 10th best time, complaining of handling problems and disappointing his public, but was well ahead of **Watson.** Young **Tommy Byrne** got the last place on the grid at his second attempt at qualifying for a Grand Prix. The three non-qualifiers were **Boesel, Jarier** whose motor virtually seized, and **Salazar. Boesel** was surprisingly eclipsed by **Keegan** despite Rupert's almost total lack of competition recently.

Didier Braillon

1. Piquet and Patrese were best away, ahead of the two Renaults and De Angelis in the Lotus, on the outside, and the Rosberg/Alboreto duo on the inside sandwiching Tambay. Behind them, the accident: Giacomelli is squeezed into the rails by De Cesaris and both Alfas are out, as in Derek Daly's Williams. (Photos: B. Asset).

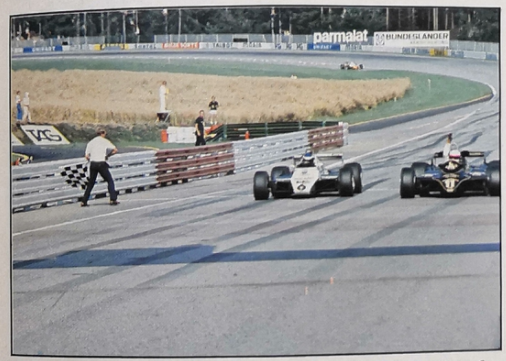
2. Piquet and Prost, who made a fabulous start, are already through and Patrese is in 3rd place the first time through the first chicane, ahead of Arnoux and Tambay, who fought off an attack by Rosberg. Running light, the two Brabhams will soon be one-two and pulling ahead. (Photo: First Line).

3. Cheever also had a great start, lying 14th at the end of the first lap and working up to 9th before he had to retire at half distance with a broken valve. Throughout the race, a piece of skirt picked up either at the start line accident or where Alboreto went off, stuck up from the engine cover. (Photo: B. Asset).

4. Piquet had to let Patrese through into the lead on lap 3 and stopped for fuel and tyres on lap 17, taking the team somewhat by surprise. It was still only an 18 second stop but dropped him to 4th before he retired when his engine blew. (Photo: J. Blakemore).

5. Patrese's pit stop took only 15 seconds and he rejoined the race without losing the lead, but Prost started closing in. On lap 28 his engine blew sending him spinning off the fast Texaco-Schikane, fortunately stopped by an earth bank only yards from the crowd. (Photo: J. Cochin).

6. With the Brabhams gone, Prost took the lead and had no direct challenger. He was in charge until the start of lap 49 when the injection pump broke, starting a fire. Head low, he walked back to the pits thinking of nine lost points. (Photo: B. Asset).



7. No Brabhams, no Renaults, Tambay out of contention after a puncture, the Cosworth cars came into their own. Rosberg's dramatic chase after De Angelis in the last 3 laps, helped by a fuel pressure problem in the Lotus, made for a breathtaking finish. (Photo: Autopresse).

8. It was Elio de Angelis' first Grand Prix win, his first chance to spray the champagne from the top step, above Keke Rosberg who was so close to his first win, and Jacques Laffite, delighted with third. (Photo: B. Asset).

To read the forecasts, you'd have thought that what actually came to pass at the end of the Austrian Grand Prix was something so inconceivable as to be sheer fantasy. Yet a wheel-and-a-bit was all that separated Elio de Angelis and Keke Rosberg at the finish: two normally-aspirated cars one-two in what was to have been, and was for some while, a turbo-dominated race, but which wound up being a race of survivors.

The start gave a sample of what was to come. Andrea de Cesaris seemed to have some oddly diagonal notion about where the front of the grid lay and whacked his team-mate Bruno Giacomelli. Both Alfas, as well as Daly and Keegan, were affected. With the cars blocking the track, a re-start might have been in the offing, but the track was cleared just in time for Piquet to sweep by at the end of his first lap, with Prost lying close behind and then Tambay for Ferrari and Arnoux in the second Renault.

The start-line crash was to cause still further casualties, as both Tambay and Alboreto suffered punctures. Tambay was able to get going in hot pursuit again after a pit-stop, but Alboreto was less fortunate: his tyre peeled off at the Boschkurve and he went straight into the crash barrier.

Races don't belong to casualties and what everyone was watching on the ultra-quick Zeltweg circuit was the lead the two Brabhams were taking over the two Renaults following. With half-full tanks, Patrese in the lead (since lap 2) and Piquet were picking up something over a second a lap. De Angelis was fifth, Rosberg was hanging in a distant sixth and Jacques Laffite was a surprising seventh (he was to say later how pleased he was with his final third place, and how lucky: *«I bent one of the skirts and from then on it was boom boom, oversteer. Still, it's the first time the JS19 has actually finished.»*)

Whether it was the sun (which after two sets of storms was still burning down brightly on the Styrian hills) or simply the demon that affects turbo engines, it was on lap 15 that the great turbo collapse began. Arnoux made one pit-stop to change tyres and then retired with a turbocharger malfunction. One down. Nelson Piquet then began to feel something not quite right in his own engine and thought to make a stop before he was expected. It took the Brabham mechanics some 18 secs to do their refueling and tyre-change number, but Piquet's total loss was some 31 secs and he re-entered the race in fourth place on lap 18. Next to try his luck was Riccardo Patrese, seven laps later. He lost about the same amount of time and rejoined a mere three seconds ahead of Prost. Disaster overtook Patrese soon enough when his engine blew up going into a fast turn: Riccardo ploughed a lonely furrow and wound up on a grassy bank within very few feet of some totally unprotected spectators, including one not quite professional photographer who just hot-footed it away in time.

With Piquet dropping out shortly afterwards with a dead engine, there remained only Alain Prost of the turbo-brigade — handsomely in the lead on lap 28 — and Patrick Tambay for Ferrari pushing hard through the field from 11th place. Prost's advance over his nearest rival, Elio de Angelis, was substantial — some 40 secs — and over Rosberg who by lap 32 had moved up to third, it was gigantic.

But an evil fate, for what seems like the nth time running, overtook Prost: his engine burst into flame five laps from the end and with it went not only his victory but many of his hopes for the title. From then on it was strictly between de Angelis and Rosberg. The Lotus' lead was something like ten seconds, but Rosberg was cutting into that lead at a second a lap. Was there enough time left, and would the Lotus last it out ? *«I was sure, with five laps to go, that it was my race at last,»* said Keke, *«but I was held up in lapping Laffite* (yes, only two cars finished on the same lap !) *and I thought that had blown it. Then I decided, what the hell, I could still do it and from then on I went flat out.»* Flat out wasn't quite good enough as de Angelis saw through Rosberg's feints on the last lap and held him off through the final curve.

Behind the two great contenders (it was hard to decide who was the most satisfied, Elio with his first ever win or Rosberg with the six points that make him virtual leader in the championship) Laffite came third, Tambay an excellent fourth, the local god Niki Lauda a commendable fifth (his team-mate Watson went out when his engine gave up) and Mario Baldi scored a point for Arrows in sixth. The only other finisher was Chico Serra in the new Fittipaldi F9, two laps down. *«I could have used the nine points more than Elio,»* said Rosberg afterwards, *«but in a sense I'm glad it wasn't Prost. As I said in Hockenheim, I'm terribly sorry for Didier Pironi, but life has to go on and as far as I can see, I'm leading the real championship and that's what I'm aiming for now.»* Similar thoughts no doubt animated Elio de Angelis as he racked up the 150th victory for the Ford Cosworth. But his pretensions to the throne will have to wait another year.

What the 90,000 plus customers got was a race in three parts. Part One was what the world and its brother was saying about the invincibility of turbos at Zeltweg. Part Two was the race the turbos actually ran, in which, even had the Brabhams not failed, either Prost or Tambay could have won — the former had his luck held out and the latter if he had not been so unlucky as to have an early puncture. The Third part was by far the best, because it was like an old-fashioned race in which two talented drivers fought it out on almost equal terms. Neither had that little bit extra that would have turned victory into a runaway and there was no procession of machines that are perhaps too powerful for their own good.

To know how good this last part was, one has only to remember what the magic eye of television captured — Elio steaming down the steep curve on the hillside with Keke right up his exhausts, and watch Keke trying to do it on one side and then the other. And Elio holding him off. And those wheels, almost side by side at the finish.

Jeff Hutchinson
Keith Botsford

Zeltweg statistics

AUSTRIAN GRAND PRIX

Date : Aug. 15, 1982
Circuit : Zeltweg
Longueur : 3.692 miles
Race Distance : 195.67 miles
Weather : fine and hot
Attendance : 80,000

PREVIOUS WINNERS

(Last five races)

1977 :	JONES (Shadow Ford)
1978 :	PETERSON (Lotus-Ford)
1979 :	JONES (Williams-Ford)
1980 :	JABOUILLE (Renault-Turbo)
1981 :	LAFFITE (Talbot-Ligier JS17)

STARTING GRID

PIQUET	**PATRESE**
Brabham-BMW BT50	Brabham-BMW BT50
1'27"612	1'27"971
PROST	**TAMBAY**
Renault RE30B	Ferrari 126C2
1'28"864	1'29"522
ARNOUX	**ROSBERG**
Renault RE30B	Williams FW08
1'30"261	1'30"300
DE ANGELIS	**ALBORETO**
Lotus 91	Tyrrell 011
1'31"626	1'31"814
DALY	**LAUDA**
Williams FW08	McLaren MP4/1B
1'32"062	1'32"131
DE CESARIS	**MANSELL**
Alfa Romeo 182	Lotus 91
1'32"308	1'32"881
GIACOMELLI	**LAFFITE**
Alfa Romeo 182	Talbot-Ligier JS19
1'32"950	1'32"957
WARWICK	**GUERRERO**
Toleman-Hart TG181C	Ensign N181
1'33"208	1'33"555
FABI	**WATSON**
Toleman-Hart TG181C	McLaren MP4/1B
1'33"971	1'34"164
HENTON	**SERRA**
Tyrrell 011	Fittipaldi F9
1'34"184	1'34"187
SURER	**CHEEVER**
Arrows A4	Talbot-Ligier JS19
1'34"422	1'34"620
BALDI	**KEEGAN**
Arrows A4	March 821
1'34"715	1'34"770
WINKELHOCK	**BYRNE**
ATS HGS1	Theodore TY02
1'34"984	1'34"985

Not qualified

Boesel (March 821) 1'35"149
Jarier (Osella FA1D) 1'35"206
Salazar (ATS HGS1) 1'35"271

DRIVERS' WORLD CHAMPIONSHIP

(After South Africa, Brazil, USA West, San Marino, Belgium, Monaco, Detroit, Montreal, Holland, Great-Britain, France, Germany, Austria)

1.	PIRONI	—	1	—	9	—	6	4	—	9	6	4	—	—	39
2.	ROSBERG	2	—	6	—	6	—	3	—	4	—	2	4	6	33
3.	WATSON	1	6	1	—	9	—	9	4	—	—	—	—	—	30
4.	LAUDA	3	—	9	—	—	—	—	—	3	9	—	—	2	26
5.	PROST	9	9	—	—	—	—	—	—	—	1	6	—	—	25
6.	DE ANGELIS	—	—	2	—	3	2	—	3	—	3	—	—	9	22
7.	PATRESE	—	—	4	—	—	9	—	6	—	—	—	—	—	19
	ARNOUX	4	—	—	—	—	—	—	—	—	—	9	6	—	19
	TAMBAY	—	—	—	—	—	—	—	—	—	4	3	9	3	19
10.	PIQUET	—	—	—	—	2	—	—	9	6	—	—	—	—	17
11.	ALBORETO	—	3	3	4	—	—	—	—	—	—	1	3	—	14
12.	CHEEVER	—	—	—	—	4	—	6	—	—	—	—	—	—	10
13.	MANSELL	—	4	—	—	—	3	—	—	—	—	—	—	—	7
	DALY	—	—	—	—	—	1	2	—	2	2	—	—	—	7
15.	VILLENEUVE	—	—	—	6	—	—	—	—	—	—	—	—	—	6
	REUTEMANN	6	—	—	—	—	—	—	—	—	—	—	—	—	6
17.	DE CESARIS	—	—	—	—	4	—	1	—	—	—	—	—	—	5
	LAFFITE	—	—	—	—	—	1	—	—	—	—	—	—	4	5
19.	JARIER	—	—	—	3	—	—	—	—	—	—	—	—	—	3
	SURER	—	—	—	—	—	—	—	2	—	—	—	1	—	3
21.	SALAZAR	—	—	—	2	—	—	—	—	—	—	—	—	—	2
	WINKELHOCK	—	2	—	—	—	—	—	—	—	—	—	—	—	2
	BALDI	—	—	—	—	—	—	—	—	1	—	—	—	1	2
	GIACOMELLI	—	—	—	—	—	—	—	—	—	—	—	2	—	2
25.	SERRA	—	—	—	1	—	—	—	—	—	—	—	—	—	1

RESULT

1. **DE ANGELIS** (Lotus 91), 53 laps (195,67 miles) in 1h25'02"212, average speed 138,07 mph.

2.	ROSBERG	Williams FW08	0"125 behind
3.	LAFFITE	Talbot-Ligier JS19	1 lap behind
4.	TAMBAY	Ferrari 126C2	1 lap behind
5.	LAUDA	McLaren MP4/1B	1 lap behind
6.	BALDI	Arrows A4	1 lap behind
7.	SERRA	Fittipaldi F9	2 laps behind

CONSTRUCTORS' WORLD CHAMPIONSHIP

1. Ferrari 64 pts - 2. McLaren 56 pts - 3. Williams 46 pts - 4. Renault 44 pts - 5. Brabham 36 pts - 6. Lotus 29 pts - 7. Talbot 15 pts - 8. Tyrrell 14 pts -9. Alfa 7 pts - 10. Arrows 5 pts - 11. ATS 4 pts - 12. Osella 3 pts - 13. Fittipaldi 1 pt.

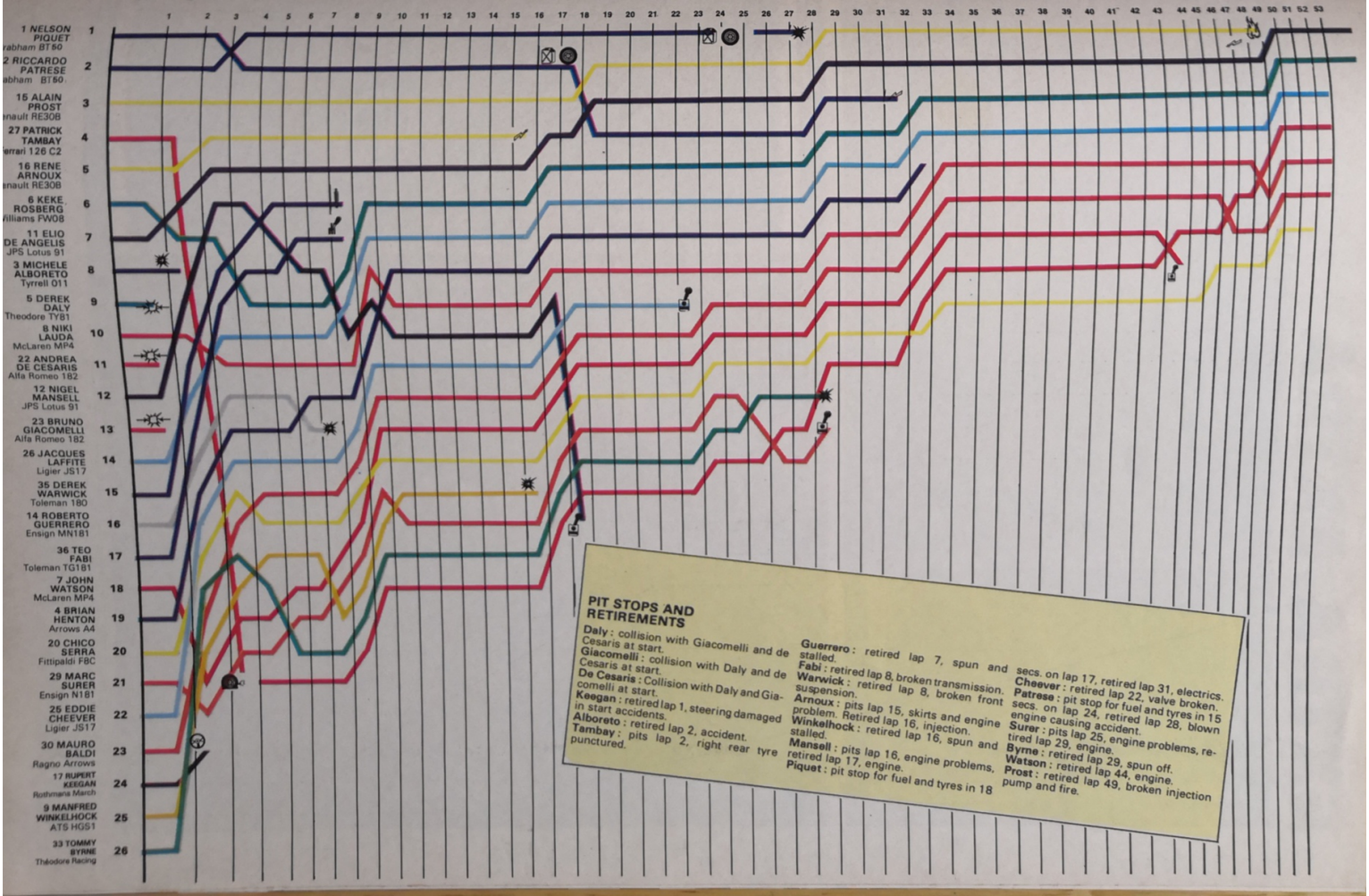
OFFICIAL QUALIFYING TIMES

	Untimed practice 1	Timed practice 1	Untimed practice 2	Timed practice 2	Warm-up sunday
PIQUET	1'30"024	**1'27"612**	1'31"393	1'28"398	1'32"428
PATRESE	1'31"117	**1'27"971**	1'32"190	1'28"296	1'32"128
PROST	1'30"882	1'29"867	1'29"380	**1'28"864**	1'33"315
TAMBAY	1'31"474	**1'29"522**	1'33"931	1'29"856	1'33"927
ARNOUX	1'33"374	8'16"467	1'30"693	**1'30"261**	1'34"039
ROSBERG	1'34"523	1'31"108	1'35"355	**1'30"300**	1'35"483
DE ANGELIS	1'33"227	1'32"686	1'32"385	**1'31"626**	1'35"624
ALBORETO	1'32"173	**1'31"814**	1'35"279	1'34"534	1'34"694
DALY	1'36"795	1'34"114	1'35"883	**1'32"062**	1'36"866
LAUDA	1'32"404	1'33"005	1'32"248	**1'32"131**	1'36"161
DE CESARIS	1'33"359	1'33"353	1'32"703	**1'32"308**	1'35"666
MANSELL	1'34"513	1'34"070	1'34"813	**1'32"881**	1'36"709
GIACOMELLI	1'34"584	1'34"431	1'33"778	**1'32"950**	1'36"684
LAFFITE	1'33"376	1'34"530	1'33"353	**1'32"957**	1'38"642
WARWICK	1'39"241	1'33"678	1'34"216	**1'33"208**	1'36"428
GUERRERO	1'34"620	1'34"796	1'34"706	**1'33"555**	1'36"819
FABI	1'36"538	1'34"690	1'34"818	**1'33"971**	1'37"974
WATSON	1'32"816	1'34"668	1'33"544	**1'34"164**	1'37"005
HENTON	1'35"399	**1'34"184**	1'34"125	1'36"228	1'36"599
SERRA	1'35"729	1'35"724	1'34"732	**1'34"187**	1'39"535
SURER	1'34"884	**1'34"422**	1'35"711	1'34"579	1'38"776
CHEEVER	1'34"945	**1'34"620**	1'35"563	1'34"815	1'39"722
BALDI	1'35"301	1'35"653	1'34"253	**1'34"715**	1'37"767
KEEGAN	1'37"761	1'36"274	1'36"205	**1'34"770**	1'38"017
WINKELHOCK	1'36"259	1'35"666	1'34"985	**1'34"984**	1'38"478
BYRNE	1'34"862	1'35"318	1'34"158	**1'34"985**	1'39"591
BOESEL	1'36"275	**1'35"149**	1'34"764	1'35"654	—
JARIER	1'36"675	1'35"622	1'34"524	**1'35"206**	—
SALAZAR	1'36"203	1'35"581	1'35"572	**1'35"271**	—

THEIR FASTEST LAPS

	Time	Lap n°
PIQUET	1'33"699	05
PATRESE	1'33"736	04
ROSBERG	1'33"821	52
TAMBAY	1'34"298	41
PROST	1'34"457	32
DE ANGELIS	1'34"597	52
ARNOUX	1'35"835	03
FABI	1'36"551	05
WARWICK	1'36"586	06
HENTON	1'36"790	31
LAFFITE	1'36"845	23
LAUDA	1'37"252	41
BALDI	1'38"066	38
MANSELL	1'38"306	12
WATSON	1'38"330	38
CHEEVER	1'38"878	31
GUERRERO	1'39"016	06
SURER	1'39"415	07
SERRA	1'40"015	16
WINKELHOCK	1'40"300	11
BYRNE	1'40"745	12
ALBORETO	1'47"893	01
KEEGAN	2'25"720	01
DALY	—	—
GIACOMELLI	—	—
DE CESARIS	—	—

onde - Lap by lap - Giro per giro - Runde um runde - Tour par tour - Vuelta a vuelta


1 NELSON PIQUET Brabham BT50
2 RICCARDO PATRESE Brabham BT50
15 ALAIN PROST Renault RE30B
27 PATRICK TAMBAY Ferrari 126 C2
16 RENE ARNOUX Renault RE30B
6 KEKE ROSBERG Williams FW08
11 ELIO DE ANGELIS JPS Lotus 91
3 MICHELE ALBORETO Tyrrell 011
5 DEREK DALY Theodore TY81
8 NIKI LAUDA McLaren MP4
22 ANDREA DE CESARIS Alfa Romeo 182
12 NIGEL MANSELL JPS Lotus 91
23 BRUNO GIACOMELLI Alfa Romeo 182
26 JACQUES LAFFITE Ligier JS17
35 DEREK WARWICK Toleman 180
14 ROBERTO GUERRERO Ensign MN181
36 TEO FABI Toleman TG181
7 JOHN WATSON McLaren MP4
4 BRIAN HENTON Arrows A4
20 CHICO SERRA Fittipaldi F8C
29 MARC SURER Ensign N181
25 EDDIE CHEEVER Ligier JS17
30 MAURO BALDI Ragno Arrows
17 RUPERT KEEGAN Rothmans March
9 MANFRED WINKELHOCK ATS HGS1
33 TOMMY BYRNE Théodore Racing

PIT STOPS AND RETIREMENTS

Daly : collision with Giacomelli and de Cesaris at start.
Giacomelli : collision with Daly and de Cesaris at start.
De Cesaris : Collision with Daly and Giacomelli at start.
Keegan : retired lap 1, steering damaged in start accidents.
Alboreto : retired lap 2, accident.
Tambay : pits lap 2, right rear tyre punctured.
Guerrero : retired lap 7, spun and stalled.
Fabi : retired lap 8, broken transmission.
Warwick : retired lap 8, broken front suspension.
Arnoux : pits lap 15, skirts and engine problem. Retired lap 16, injection.
Winkelhock : retired lap 16, spun and stalled.
Mansell : pits lap 16, engine problems, retired lap 17, engine.
Piquet : pit stop for fuel and tyres in 18 secs. on lap 17, retired lap 31, electrics.
Cheever : retired lap 22, valve broken.
Patrese : pit stop for fuel and tyres in 15 secs. on lap 24, retired lap 28, blown engine causing accident.
Surer : pits lap 25, engine problems, retired lap 29, engine.
Byrne : retired lap 29, spun off.
Watson : retired lap 44, engine.
Prost : retired lap 49, broken injection pump and fire.

EXTRA, EXTRA

TOMMY BYRNE: THE BIG LEAP

"They asked me on TV if I wasn't daunted by racing with Niki Lauda and people like that," said Tommy Byrne shortly after he'd qualified for his first Grand Prix. *"So I said 'Niki who ?'"* Tommy was proud of his crack, but it left an impression that here was a very cocky driver about to make his first Grand Prix start. Tommy, now 24, from Blackrock near Dundalk, Southern Ireland, has been at the top of his chosen sport for the past three years. He was a double Formula Ford champion in Britain in 1980, and went on to win both the European and British FF 2000 championships in 1981. Less than a year ago, he won the very competitive Formula Ford Festival at Brands Hatch.

That win led him to a Formula Three drive with a Murray Taylor-run Ralt and Tommy won the first four Marlboro British F3 championship rounds. After a lean spell, Tommy won the round at the British Grand Prix, and here his career changed. Theodore were looking for a new driver to replace Jan Lammers with whom they'd had few results. And Brian Minshall of Rizla was not only interested in Theodore, but also Tommy Byrne. The three elements came together and after 50 laps testing at Oulton Park and Snetterton, Byrne found himself heading for Hockenheim. There he would try and succeed in qualifying, something that his F3 rival Roberto Moreno had failed to do at Zandvoort in the more competitive Lotus 91.

Tommy didn't qualify at Hockenheim, but he did a week later at Osterreichring. He knew both circuits from his FF 2000 days, but *"there's nothing to Hockenheim any more, no place to make up time. Then the gearlever came loose and the clutch went, so practice was pretty bad. But I was confident for the next day. Then it rained of course."* Even so, Tommy might have made up the numbers to 26 following the withdrawal of Didier Pironi's Ferrari. *"I believe it was political, but the organisers didn't know me. Peter Warr (of Lotus) and Ken Tyrrell tried very hard to allow me to race, but there was no way."*

But Tommy put the car into 26th spot on the gride at Osterreichring. It should have been 18th for he set a time 0.8 s faster on Saturday morning. *"But we put the qualifiers on and the car handled terribly. I was lucky to get that lap in. The team says that that's always the problem on qualifiers, but I don't take that attitude. There's something wrong. Every time I hit a bump, the back end just tried to break away. You just have to keep on top of it all the time."*

But Tommy had succeeded where Moreno had failed. Why did he think this was ? *"Roberto is the one person I rate in Formula 3 at the moment, and I think he will be good. But he has a bit of a head problem. I think he found it too much for him. Maybe he didn't find the limit. I feel at home in an F1 car, and I wouldn't be here today if I wasn't reasonably good. I just keep the boot in over the bumps. It's dangerous, but I'm not an idiot. If you don't hold on tight, the car just jumps off the track at 150 mph. And the pressure doesn't affect me. They're only cars after all, aren't they ? Frankly, Roberto not qualifying didn't do me any good, and a lot of people thought that I wouldn't qualify..."*

Tommy qualified and started. Thanks partially to the startline shunt, he found himself 18th on the first lap, and up to 17th a lap later. Behind him were Winkelhock, Watson and Surer but by lap four, he was holding a steady last, with only the delayed Tambay behind him. On lap 28, the Ferrari driver overtook the Irishman, but Tommy was now twelfth. However, although he was taking care to keep out of everyone's way, he was in trouble with a detaching side pod, and on lap 29, drastically altered handling caused him to run wide out of the Texaco chicane and he bounced across the grass into retirement. But Tommy Byrne was now a Grand Prix driver and looking forward to more races.

Bob Constanduros

PROST UNDONE

Are those tears fogging up his helmet ? His fists are tightclenched, his head is bowed, there's rage in his heart. He steps out of his car; it's not just a cockpit he's quitting but a victory and a strong grasp on the title. No sooner does it appear, fleetingly, than his revenge goes up in smoke. He had the race won, the crown sat on his brow. Resentment, wrath, impotence and probably more went through his mind. In Alain's place, anyone would weep.

At the other end of the circuit, Gérard Larousse feels a sudden pang of anxiety. In the stands opposite the pits, the public is on its feet applauding. It took no genius to realize that Niki Lauda, the local god, had moved up a place. Someone must have dropped out in front of Niki. Prost ?

Larousse pricked up his ears. And, alas ! he hears Prost's name. A few seconds go by, anxiety mounting. And then one submits to reality: no yellow car comes by. In Gérard's head, incredulity and massive frustration are at war: what happened is hard to understand, still harder to admit. His stomach heaves and he too is on the verge of tears. The blow at Monaco had been bad enough; here is was happening all over again, and with far more serious consequences, because so much more is at stake. It wasn't just this cruel defeat that made this weekend one of the worst team Renault could recall. One had but to sit somewhere by Alain at lunch on Sunday to feel the rot. His head was down; he was unshaven; he didn't want to eat; his eyes glared: defeat was written on him before the race even started. An oil leak from his engine: that was the sum of his experience two-and-a-half hours from the start. Alain knew it: the leak wouldn't be found and he'd have to go out in his spare.

Friday and Saturday practice had heralded disaster: they were all worry and error. First it was the electronic injection. Prost's engine wouldn't work right, and Arnoux's was also cutting out mysteriously, thrice leaving him stranded out on the track. Saturday morning was a little better.. but two engines had blown in the afternoon session, during qualifying. It had been a terrible weekend: the kind that turns hair gray and makes men age in a hurry.

Then everything bad was left behind. It could all be recovered, all that lost ground. There was Alain, darting like a lark, leading the race. Forget the mistakes, erase the practice times and the setbacks: the wheel of fortune was at last turning the right way.

But the four wheels on Number 15 stopped. In sight of the finish, or at least within an easily-imagined sight of the chequered flag. *"We went through the worst possible of everything during practice,"* said one mechanic shortly before the start. The worst possible of everything ? All possible ills ? Worse was yet to come. Prost and Renault probably lost more than a victory at Zeltweg. Bye-bye placid cows, bye-bye fatted calves, bye-bye piglets and broodhens... You'd better believe it, those were tears fogging up his helmet.

Rob de la Salle

NELSON'S COLUMN

These two GPs in Germany and Austria have been very disappointing for us, although for different reasons. At Hockenheim I was put off the road when I was leading comfortably, and anyone who saw the TV pictures will have been able to decide for himself whose fault it was. In Austria we had a failure of some kind, the cause of which was still unknown when this issue of GPI had to go to press. The important thing, though, is that we're still making good progress with our turbo technology. At least in Austria we were able to make our pit stops for the first time. I had to stop earlier than expected, because of a blistered tyre, and when I got back into the race I was just ahead of Keke Rosberg, but behind Riccardo in the other Brabham, Prost in the Renault and Elio de Angelis, the eventual winner. During the stop, for some reason, the engine seemed to lose its power so it was a bit of a struggle to stay ahead of Keke. In the end it just stopped altogether, a very frustrating result after we had been so quick in practice. But the pit stop idea worked beautifully. The boys were magnificent... and Riccardo would have won the race easily if he hadn't skated off on his own oil, the result of another broken engine.

A wellplaced TV camera got me a lot more publicity than I expected from the incident at Hockenheim. OK, I punched the guy, but he really deserved. He had blocked me at Zandvoort in the Dutch GP, and he did it again in Germany in spite of some very clear blue flag signals from the marshals all the way down to the chicane. I had passed him cleanly under braking when he seemed to accelerate into the back of my car. The incredible thing is that at the speed he was going he would never have got around the corner even on his own... so he just used my car as a brake. It cost me the race, because I had plenty of time to make my stop and get back on the track still in front of Tambay. Someone told me in Austria that I had made myself very unpopular in Italy because of my comments about the way Pironi's Ferrari broke up into several pieces when he crashed during practice at Hockenheim. I think that those critics would not have been quite so ready to attack me if they had been standing at my side when I ran to the scene of the accident and saw Didier's car, or at least what was left of it.

Didier was screaming something in French when I got there. He was fully conscious and when he saw me he just said: « Get me out of here, » in English. But the front of the car was gone and his legs were in such a terrible state that I realized it was a job for professionals only. I think it's incredible that he is doing so well in hospital but that doesn't change my mind about the standards of safety of certain cars, especially those which are made of aluminium honeycomb.

I've had two really big shunts with Brabham in the last 14 months, at Silverstone and at Austria last year. Both of them involved collisions with the guard rail at almost flat-out speed, yet I got out of both of them with nothing worse than a shaking. Lucky ? — yes, of course, but in my accidents the car stayed in one piece. I think that every designer in F1 should be aiming at the same standard of safety in the monocoques as Gordon Murray is.

The World Championship is hotting up again. With three races to go there are eight drivers still with a reasonable chance of winning. I'm not sure that I could stand the nervous strain of going to Las Vegas like I did last year, when I won the title. But that doesn't mean that I've already given up any hope of being champion for the second year in a row...

N. PIQUET

BRABHAM

BT50/03: Nelson Piquet (BR)
BT50/04: Riccardo Patrese (I)
BT50/02: T-car

Few changes on the Brabhams in Germany: they had an air intake on the right side to cool the fuel pump, because overheating caused the mechanical failures at Paul Ricard. During practice a digital control instrument was also mounted to record the fuel temperature. This concern at cooling the fuel went up a notch in Austria where the pipes taking the fuel to the engine were apparently cooled by a portable "mini-fridge" of which the external fins, filled with gas or alcohol, could be seen at the level of the back of the water radiator in the right sidepod. Blocks of ice were also put inside the front of the sidepods during practice to cool the air going though the radiators. Also in Austria, the wastegate on the BMW engines was modified and considerably lengthened to give more torque. It now comes out on the left at the far end of the exhausts. BT50/03, damaged in the shunt with Salazar at Hockenheim, was repaired without difficulty for Austria.

ARROWS

A4/1: Marc Surer (CH)
A4/5: Mauro Baldi (I)
A4/3: T-car

The new A5, expected at one stage in Austria, was not ready. It will have Brabham-type rising rate suspensions, Williams-type units having been considered earlier. Now due at Dijon, concentration on the A5 evidently meant no changes to the A4s in Germany or Austria. Though he did not qualify, Surer was able to start at Hockenheim when Lauda withdrew. Because his engine failed to start, Baldi had to race the spare in Germany, and Surer had mechanical trouble in Austria that forced him, too, into the spare.

ATS

HGS1/04: Manfred Winkelhock (D)
HGS1/02: Eliseo Salazar
HGS1/03: T-car

The narrow track set-up tested on the spare at Paul Ricard was not satisfactory and was abandoned in favour of the traditional wide track on the three cars, though the idea was devised for the fast circuits. The new sidepods and engine air intakes which appeared in France were retained, however. Winkelhock used the spare car in Germany because his usual race car had the engine break during the warm-up. Salazar's car, damaged in the collision with Piquet in Germany, was repaired for Zeltweg, but he could not qualify there.

ALFA ROMEO

182/3: Bruno Giacomelli (I)
182/6: Andrea de Cesaris (I)
182/4: T-car

De Cesaris had a new chassis to replace 182/5 which was damaged at Paul Ricard. The dynamic air intakes for the engine were retained, as was the cooling system for the fuel pump. Sidepods tested at Monza before Hockenheim were not used at the races; their particularity was longer lower surfaces. The shape of the front wings was slightly modified.

Cockpits

ENSIGN

N181/1 (16): Roberto Guerrero (COL)

Still no second chassis. Mo Nunn's resources are very limited and it seems obvious that he is trying to finish the season with the existing car and the few good motors he has left. The only modification was the use of a small flap under the sidepods ahead of the rear wheels.

FERRARI

126C2/061: Patrick Tambay (F)
126C2/060: Didier Pironi (F)
126C2/059: T-car

Chassis 126C2/060 destroyed in Pironi's accident at Hockenheim on Saturday morning had an engine with a different wastegate. During the first day of practice in Germany, Ferrari experimented with a new Goodyear tyre, four centimeters narrower than usual, following the route Pirelli has been on for several Grands Prix. The only other modification were the adaptation of the cars to faster circuits, with both single and three-level rear wings available. After the accident, the spare with the longitudinal gearbox was prepared for Tambay. There were two cars in Austria, that 059T spare and 060, for the Scuderia's only driver. A new chassis is due at Monza with a modified front section that will allow better use of the triangulated front suspension which appeared at Detroit.

FITTIPALDI

F9/1: Chico Serra (BR)
F8D/3: T-car

The new F9 has become Serra's regular car and it was modified around the cockpit area with the sides raised slightly and thus strengthened. The front suspension wishbones have been enlarged and strengthened.

LOTUS

91/8: Elio de Angelis (I)
91/5: T-car for de Angelis
91/6: Nigel Mansell (GB)
91/7: T-car for Mansell

Nothing new at Lotus for Hockenheim except the use of the rear wings seen at Paul Ricard. De Angelis' spare was again equipped with rising-rate suspension at the front, but it is on a conventional chassis, the front of which should be redesigned to make it fully operational. The two cars had major problems of skirt wear in Germany and they were modified for Austria, where the cars also had an air intake on the engine cover to cool the rear shocks.

MARCH

821/11: Jochen Mass (D) and Rupert Keegan (GB)
821/07: Raul Boesel (BR)

As 821/RM10 was destroyed in Mass' accident at Paul Ricard, the German driver had Boesel's RM11 in Germany, with Boesel getting the spare RM07, formerly run by de Villota. There is no longer a spare chassis available. The cars had reinforced front suspension positioned to give a longer wheelbase.

McLAREN

MP4/1B-07: John Watson (GB)
MP4/1B-06: Niki Lauda (A)
MP4/1B-05: T-car

No modifications. John Barnard was not at Hockenheim, staying home to work on a development of the current car, which may appear at Dijon. MP4/1B-07 damaged by Watson in Germany was repaired for Zeltweg where Lauda was back behind the wheel after missing the German race because of the practice injury to his hand.

OSELLA

FA1D/04: Jean-Pierre Jarier (F)
FA1D/01: T-car

The two Osellas had the new rear suspension with a wider track and a new engine and gearbox undertray to improve the aerodynamics and top speed, but also required by new sidepods. The changes affecting the aerodynamic set-up of the car led to oversteering problems in Germany which were corrected for Austria. But Jarier was not able to qualify there because his engine started seizing on Saturday afternoon.

RENAULT

RE30B/10: Alain Prost (F)
RE30B/08: René Arnoux (F)
RE30B/06: T-car

Chassis 10 was new in Germany. It was damaged at the right rear in the accident with Pironi Saturday morning and repaired that night, but for safety, Arnoux used the spare for the German Grand Prix. Contrary to the two other cars which had the hydraulic ride height system fitted, it was fitted to Arnoux's spare only on Saturday night. Carbon fibre brake discs were tested briefly on Friday morning at Hockenheim. For Zeltweg, Prost got his new car back, completely checked over, and had the hydraulic system disconnected during the first qualifying session. The electronic injection was taken off on Saturday and then Prost made the spare, RE30B/06, his race car, only to have to change back after having an oil leak in the Sunday morning warm-up.

Cockpits

TALBOT-LIGIER
JS19/01: Eddie Cheever (USA)
JS19/03: Jacques Laffite (F)
JS19/02: T-car

The JS19s suspension pickup points have been moved to improve its handling. Laffite had different sidepods at Hockenheim and during the warm-up tried a rear wing with a small area. At Zeltweg, Cheever tested dynamic engine air intakes on Friday morning based on those on the JS17 last year.

WILLIAMS
FW08/5: Derek Daly (IRL)
FW08/6: Keke Rosberg (SF)
FW08/1: T-car

Rosberg had a new chassis. Both this and 05 have a new front suspension using wishbones of round rather than square section, and strengthened, giving a wider front track and a longer wheelbase. The internal aerodynamics at the rear had been modified ahead of the rear wheels, where the vertical panel was eight centimeters deeper and almost touched the ground. It was in carbon fibre. The fuel pump was cooled by a small air intake on the engine cover and several carbon fibre rear wing pillars were tested.

TYRRELL
011/5: Michele Alboreto (I)
011/2: Brian Henton (GB)
011/4: T-car

Henton's car has been lightened and now is at the same weight as Alboreto's. Both now have the engine cover which was first used on Alboreto's car in France. The 011/5 had single Lockheed brake calipers front and rear, while 011/2 had AP calipers, double in the front and single at the rear. Sunday morning in Germany, the Tyrrells had a modified fuel tank, five centimeters higher, to avoid possibly running out of fuel.

TOLEMAN
TG181C/6: Derek Warwick (GB)
TG181C/9: Teo Fabi (I)

The official numbering of the rebuilt chassis 07, which appeared in Brand Hatch, is TG181C/9 and not TG181C/7 as we have written. There was no change to the cars. The new design is due to be ready shortly, and to do first testing before the end of August. It apparently has a small oil radiator at the front at present, as on the current cars, but this is expected to disappear after the first test sessions. Fabi could not qualify in Germany because his engine broke on Friday morning and could not be changed in time for the afternoon session in the dry, while Saturday was of course wet.

THEODORE
TY02/1: Tommy Byrne (GB)
TY02/2: T-car

The spare car had reinforcement behind the front rocker arms, anchored each side of the cockpit, to increase the rigidity of the monocoque at a point which was shown to be weak when Geoff Lees was involved in the Montreal start-line accidents. Tony Southgate was not in Germany, believeing it was not worth going to see Byrne's first outing, but was in Austria. The Formula 3 star could not qualify in Germany but got on to the grid at Zeltweg.

The test we quote in the headline also described the XJS-H.E. as "travelling so quickly and silently between two points that some other means than internal combustion seems to have been employed." Which you may think says it all.

However, we would like to add a fact or two.

First, the engine. 5.3 litres, V12, 300 BHP with a maximum speed of 155 mph, and acclaimed as the finest production engine anywhere in the world.

Yet the XJS-H.E. delivers fuel economy comparable to many smaller engined cars. (On a run from Munich to Calais Motor Magazine's test car achieved 21.9 mpg at an average running speed of 62.6 mph.)*

This remarkable achievement is made possible by the adoption of the unique 'fireball' cylinder head, combined with an advanced digital fuel injection system which precisely meters the amount of fuel required second by second.

The suspension system is so smooth and the sound insulation so complete that you can carry on a civilised conversation at speeds almost embarrassingly higher than the legal limit.

And naturally, in the best Jaguar tradition, we haven't forgotten creature comforts.

Connolly leather seating and trim, burr elm veneer dashboard and door cappings, deep pile carpeting, air-conditioning, and a four-speaker stereo/radio cassette system, together with many other features combine to give an unequalled level of interior refinement.

"THE FASTEST AUTOMATIC TRANSMISSION PRODUCTION CAR IN THE WORLD."
SUNDAY TIMES, OCTOBER 1981.

The overwhelming verdict of the motoring press is that the XJS-H.E. is the finest Grand Touring car money can buy.

We'd like to add that the few rivals for that title can cost up to twice as much as the Jaguar's price of £19,708.

JAGUAR CARS
In pursuit of perfection.

Price, based upon manufacturer's RRP and correct at time of going to press, includes seat belts, car tax and VAT. (Delivery, road tax and number plates extra). Official fuel consumption figures: constant 56 mph 27.1 mpg (10.4 L/100 km); constant 75 mph 22.5 mpg (12.6 L/100 km); urban cycle 15.6 mpg (18.1 L/100 km); *Issue dated 18th July 1981.

TWO OF OUR MOST SATISFIED CUSTOMERS.

When you've won Grand Prix races with different drivers you must be doing something right.

The Unipart Sponsored Marlboro McLaren International Formula One Racing Team in the persons of John Watson and Niki Lauda have done just that, each time with our oil in the hot spot.

Unipart Super Multigrade's special formulation protects an engine at high speeds, the kind of speeds Niki and John achieved driving their Unipart-sponsored Marlboro MP4B's.

But Unipart's low viscosity also flows more quickly during cold starts, while its special formulation protects against bearing wear and corrosion.

Which is why Niki and John put exactly the same oil in the cars they drive to work as in the ones they drive after they get there.

UNIPART

The answer is yes. Now what's the question?

'All you have to offer is all you have.'
saudia
SAUDI ARABIAN AIRLINES
Member of IATA
Tri-Star and 747 comfort with unique Saudia service. Welcome to our world.

TWO OF OUR MOST SATISFIED CUSTOMERS.

When you've won Grand Prix races with different drivers you must be doing something right.

The Unipart Sponsored Marlboro McLaren International Formula One Racing Team in the persons of John Watson and Niki Lauda have done just that, each time with our oil in the hot spot.

Unipart Super Multigrade's special formulation protects an engine at high speeds, the kind of speeds Niki and John achieved driving their Unipart-sponsored Marlboro MP4B's.

But Unipart's low viscosity also flows more quickly during cold starts, while its special formulation protects against bearing wear and corrosion.

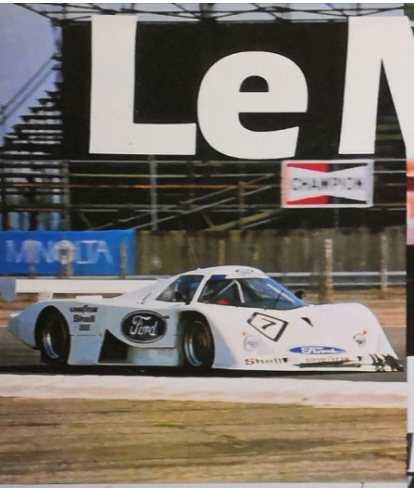
Which is why Niki and John put exactly the same oil in the cars they drive to work as in the ones they drive after they get there.

UNIPART

The answer is yes. Now what's the question?

'All you have to offer is all you have.'
saudia
SAUDI ARABIAN AIRLINES
Tri-Star and 747 comfort with unique Saudia service. Welcome to our world.

Le Mans means action



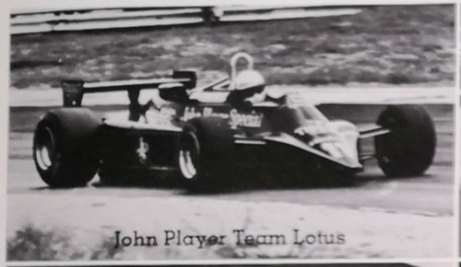
SPECIAL LE MANS 24hr ISSUE JUNE 29th.

Still on sale from your local newsagent or above address £2.

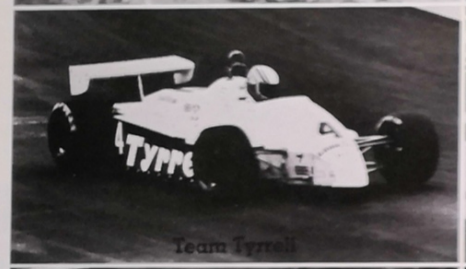
Grand·Prix international

6 York Street, London W1. Tel: 01-486 1277

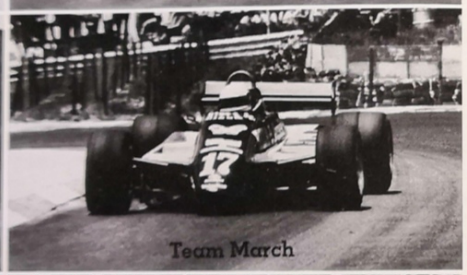
MORE FORMULA ONE TEAMS USE VALVOLINE THAN ANY OTHER MOTOR OIL.


John Player Team Lotus

Team Brabham



Team Tyrrell



Team March

Team Fittipaldi

Theodore Racing

On the Grand Prix Formula One circuit, there is one motor oil that is dominant in dependable engine protection. Valvoline® Racing Motor Oil.

More Formula One teams use Valvoline than any other motor oil. Because Valvoline protects Grand Prix engines from the tremendous heat and friction of racing.

And, for everyday stop-and-go driving, Valvoline® Motor Oil protects your engine the same way it protects the most expensive racing engines in the world.

Valvoline Motor Oil

WINNING THE WORLD OVER SINCE 1866.

Enjoy the gentle pleasure of Silk Cut.

The international choice in mild cigarettes.

Rothmans
KING SIZE
BY SPECIAL APPOINTMENT
FILTER TIPPED
ROTHMANS OF PALL MALL LONDON EST 1890
WORLD LEADER
Wherever excellence is a way of life, the swing is to Rothmans King Size.
Rothmans extra length, finer filter and the best tobaccos money can buy
give you true King Size flavour. Rothmans King Size really satisfies.
THE GREATEST NAME IN CIGARETTES